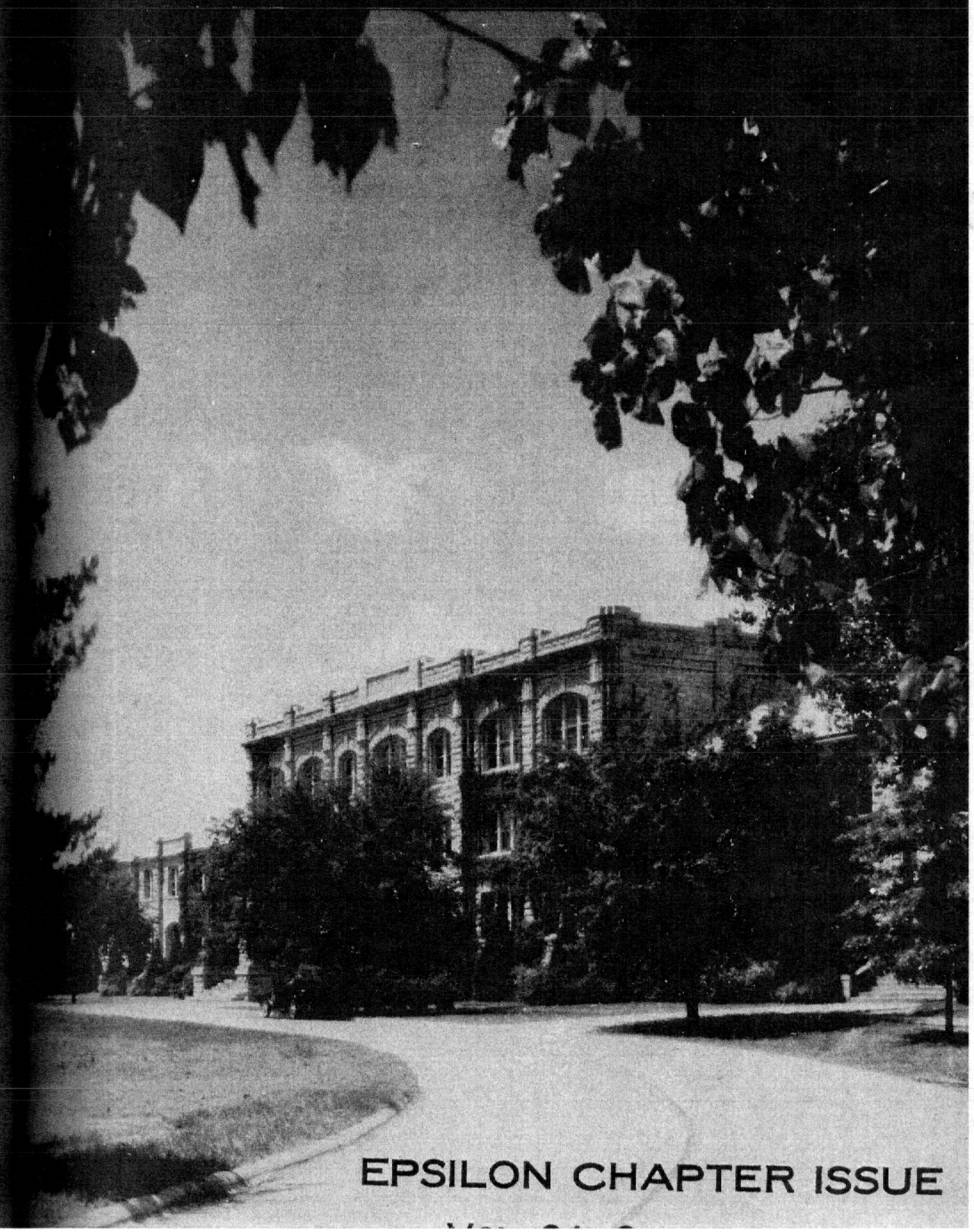
THE PYRAMID

SIGMA TAU



EPSILON CHAPTER ISSUE

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(Concluded on Inside Back Cover)

The Pyramid of Sigma Tau

Devoted to the Interests of Sigma Tau Fraternity

C. A. SJOGREN - - - *Editor and Business Manager*

VOL. 24, NO. 3 MAY, 1939 95TH ISSUE

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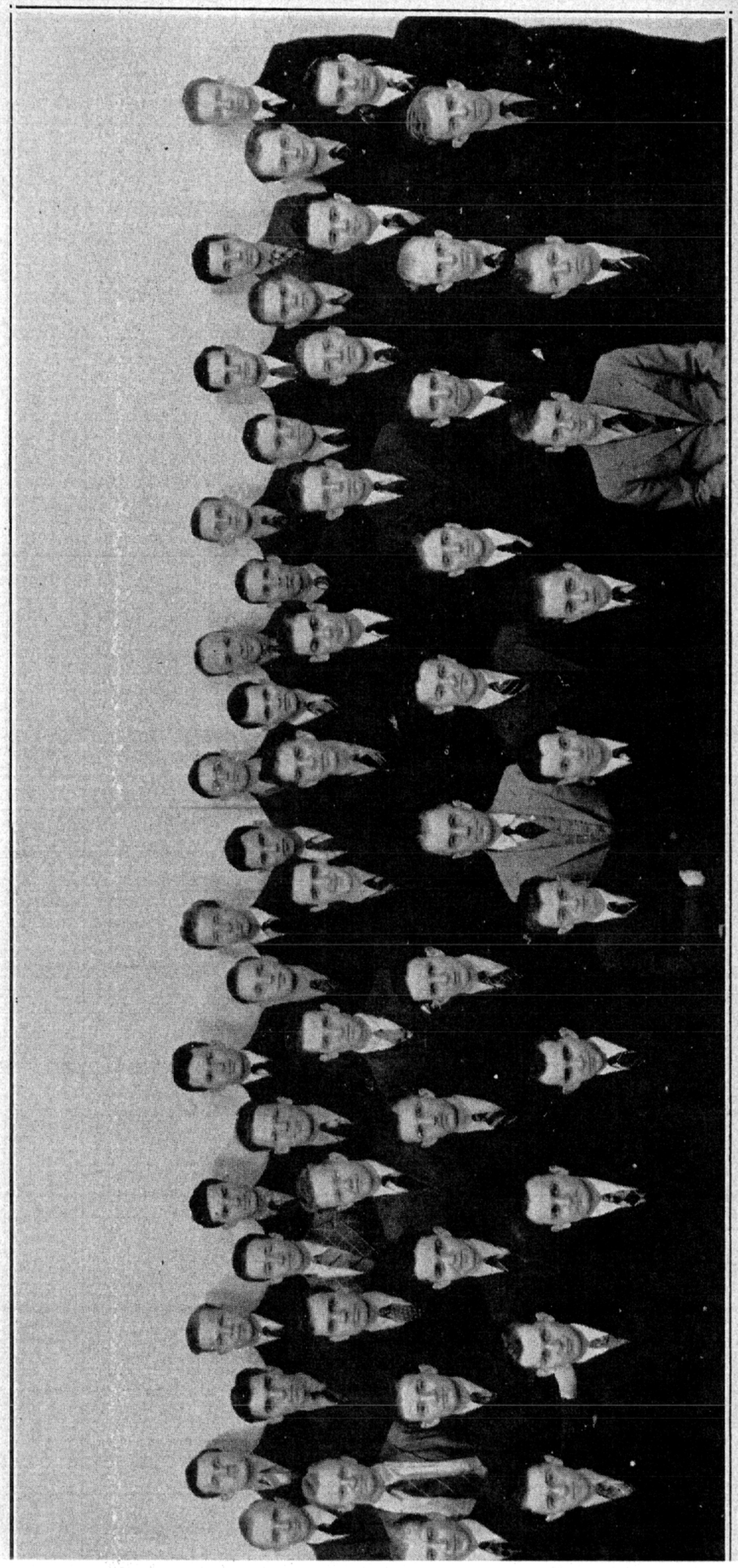
Entered as second class matter at the postoffice at Lincoln, Nebraska, under the Act of Congress of August 24, 1912.

THE PYRAMID is the official publication of the Sigma Tau Fraternity and is published quarterly under its authority. Subscription price: $1.00 a year, payable in advance. Address all communications to C. A. Sjogren, Business Manager, 201 South 30th Street, Lincoln, Nebraska.



EPSILON CHAPTER, KANSAS STATE COLLEGE

Left to right—FRONT ROW: C. W. Blackburn, Robert Lake, John L. Mitcha, Ed Sefcik, Edmond Wolfe, Morris Willis, Ralph Samuelson, Howard Stover, Joseph Redmond.
SECOND ROW: Carmen Witt, Edwin Schumacher, Walter Hanson, Paul Hefty, William McKinley, Prof. L. V. White, Duane Jehlik, Woodrow Sigley, John Young.
Richard Evenson, LeRoy Culbertson. Homer Wesche, Robert Pyle, Leland Moss, George Vaught, Carl Beyer.
THIRD ROW: Richard Wherry, Wendell Pfeffer, Frank Hunter, Louis Rotar, Glenn Boes, Remington, John Eppard, Leslie Doane, Eugene Ripperger, Richard Christy.
Oliver Brown.
FOURTH ROW: John Gaumer, John Sutherland, Garrett Gardner, Ed Hayes, Robert Selg, Sam Denburent, William Hoagland, James Stout, Frederick Gard-
Arthur Thompson, Richard Lindgren.
BACK ROW: Edward Smith, Hamel Eshelman, Noble Willis, Wilfred Park, George Young,
James Nixon

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CAMPUS OF KANSAS STATE COLLEGE

LESLIE DOANE, Ar.E. '40, Epsilon Chapter

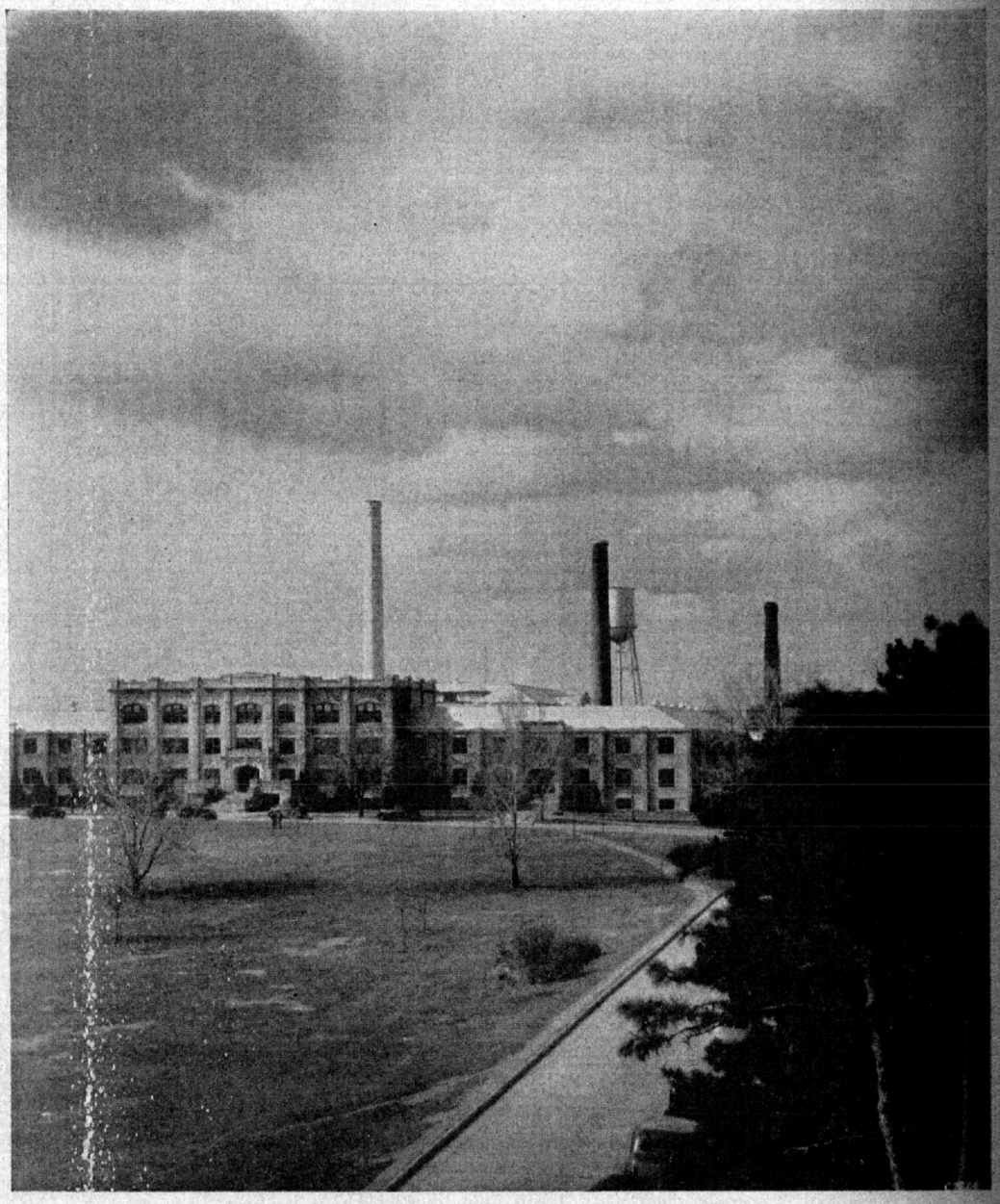
Sprawling in attractive disarray over the low summit of a sunny Kansas hill, the buildings of Kansas State College form several quadrangles, each devoted to some phase of the work of the institution. Ranking high among the picturesque campuses the country over, the grounds have been developed according to designs laid out by landscape architects. Early executives of this institution foresaw the need of intelligent and organized planning for institutional growth, and there has been a planned development since 1885.

One of the principal factors contributing to the beauty of the campus is the intelligent use of native stone. Quarried on the extensive acreage owned by the college, this limestone, symboliz-

ON THE CAMPUS

ing as it does the growth of the college from the native soil, is a most appropriate medium for construction. Individual stylization found on some of the present buildings reflect the particular

period of architectural eclesticism dominant at the time of their construction. At the present time, considerable effort is being expended by college authorities to remold the building style into



ENGINEERING HALL—FROM THE SOUTH

some cohesive design that will adequately express the spirit of the people the college serves.

Another feature contributing to the attractiveness of the campus

is one of the finest arboretums in the Middle West. The grounds are extensively planted with a great number of beautiful and interesting varieties of trees and shrubs. These plantings are arranged in picturesque groups and masses to enhance the beauty of the structures of the institution. Broad avenues sweep in and out among the buildings and through extensive lawns and gardens about the campus.

ADMINISTRATION BUILDING

The building group for the Division of Engineering and Architecture shows a far-flung system of shops and laboratories fronted by the impressive Engineering Hall, and backed by the power plant. The three smoke stacks rising in various heights in the

rear of "Engine House" silhouette the growth of Kansas State College as symbolized in its power needs.

Present building needs dictate the addition of two wings to the Engineering Hall in the near future. These will house an auditorium and more classrooms and laboratories. This will relieve considerably the congestion of space now experienced by the largest engineering school in the Middle West.

A recent addition to the buildings of the campus that will, in a great way, facilitate the teaching of engineering, is the new Willard Hall. Here in the graceful dignity of Tudor Gothic houses the laboratories and rooms of the Department of Chemistry and Physics. Providing much needed facilities for research and student work in the physical sciences, the new building replaces the gap in housing needs left by the burning of Denison Hall some five years ago. Despite this handicap of physical equipment, the Department of Chemical Engineering has maintained a substantial reputation throughout the period of inadequate facilities.

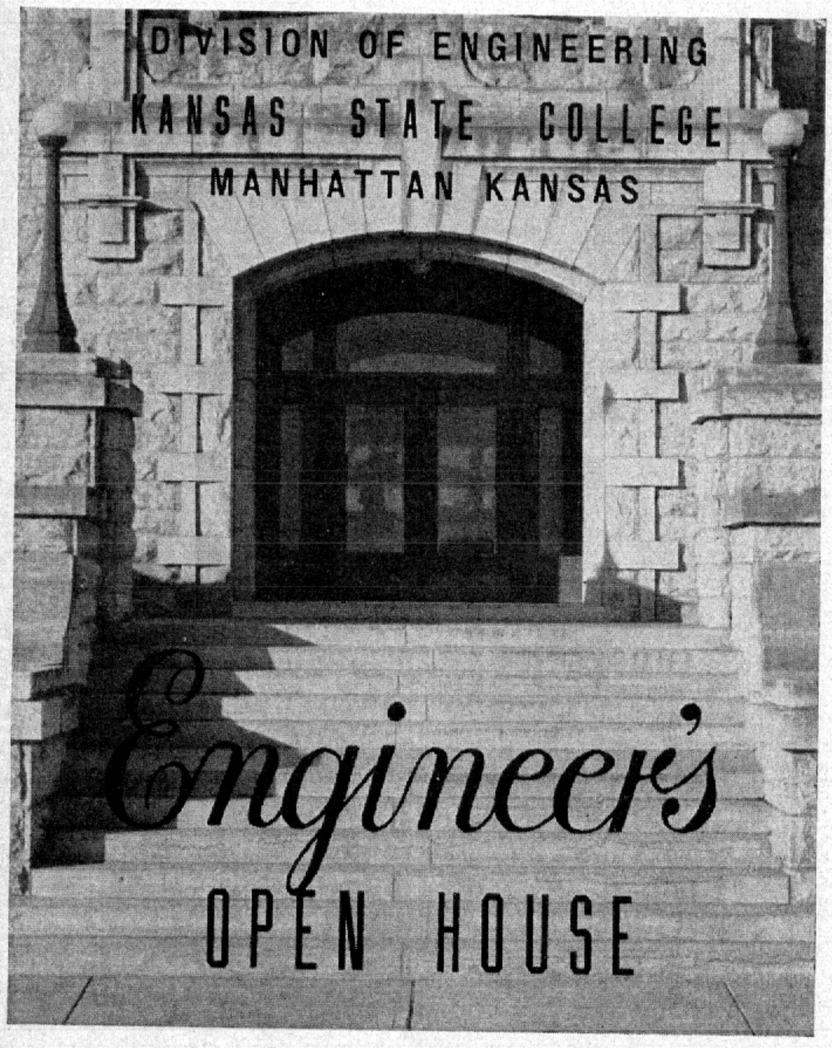
THE "K S" ILLUMINATED

Future developments in not only the engineering division, but the college at large, have already been carefully planned in the so-called 20-year plan. This program is the result of careful study of the college problems by authorities and students, and workable solutions have been presented. With this as a guide for further construction, a coherent building program will make for a more efficient and attractive campus plan.

OPEN HOUSE

GARRETT GARDNER, C.E. '39, Epsilon Chapter

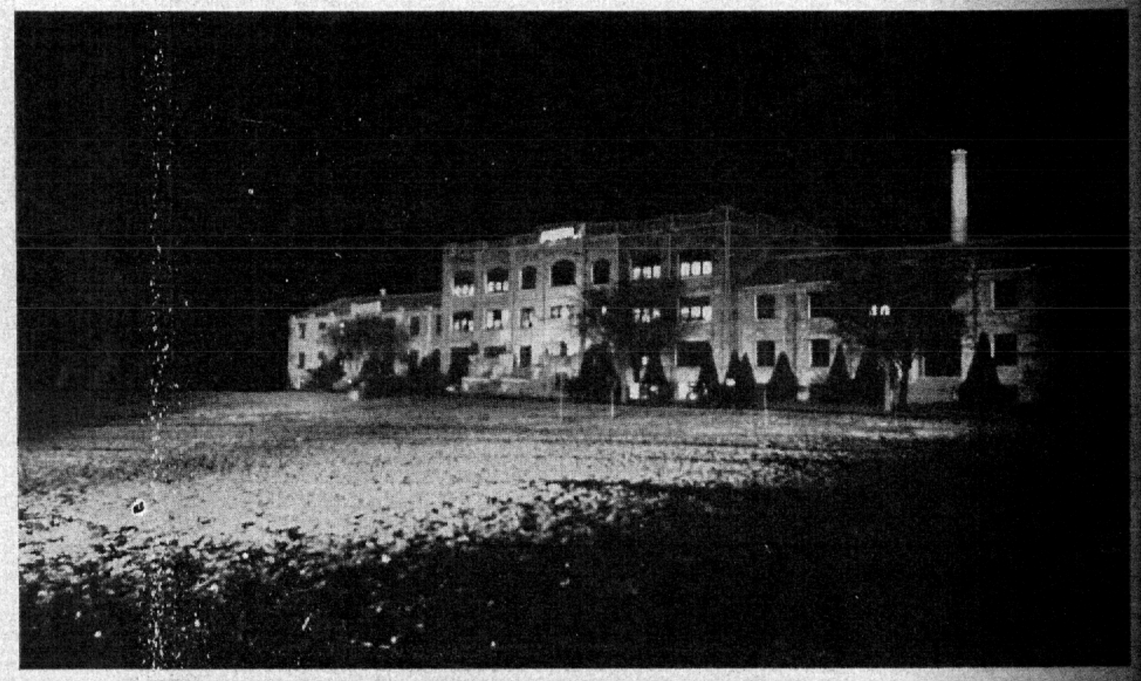
The Division of Engineering and Architecture at Kansas State College is busily engaged in the spring in the extensive preparation that its departments make for their annual "ENGINEERS' OPEN HOUSE" which is held near St. Patrick's Day each year. As some indication of the magnitude of the exposition, an electric eye placed at the entrance this year recorded the passage of 12,000 individuals.



This annual engineering affair in the last twenty years has evolved from its humble beginning as an engineers' holiday to an

extensive two-day showing of engineering progress and achievement. At desultory intervals during the years preceding 1920, the engineering students at the college declared a holiday at some time during the school year and entertained themselves with a hike or a picnic at some favorite spot near the city. This self-declared holiday received its first official sanction in the fall of 1919, at which time it was given the name "Engineers' Day." This authorization marked the first definite step toward an engineering exposition which now annually attracts more people to the campus of Kansas State College than any other single feature sponsored by the school.

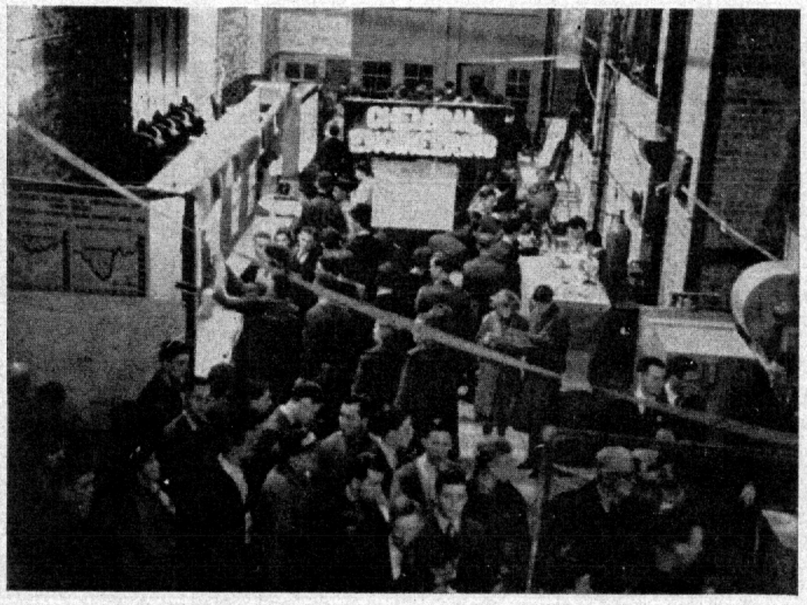
As part of the festivities on that first Engineers' Day, a parade was held, the highlight of which was a float built by the agricultural engineering department depicting the visions of an aged horse as he stood contemplating the change from horse-drawn equipment to power machinery which utilized the internal combustion engine.



ENGINEERING HALL DURING OPEN HOUSE

The fundamental groundwork of the present exhibition was laid during the second semester of the 1920-21 school year. At that time, displays by the various departments made their public inception when the doors of the division were thrown open to outside

visitors. The parade was continued as a feature of the exhibit that year, highlighted by a display in which appeared the single girl enrolled in an engineering course. From that time until the year 1929, Open House continued with the same general policy, but the exhibits became more detailed and ambitious in design as a reflection of the increased interest shown by the public and the



CHEMICAL ENGINEERS' DISPLAY

proportionate increase in the undergraduate work offered by the departments. By 1929, because of this interest of the people of Kansas, coupled with the spirited competition for that interest which manifested itself within the division, the student officers, together with the faculty, determined upon more lavish proportions for the event. This necessitated the adoption of a plan to make the Open House a two-day affair. The committee also chose a St. Patrick theme to unite more closely the ideals of the engineers with their patron saint and to afford the publicity committee an opportunity to open up hitherto unthought of channels for their feature writeups. That year's committee was also particularly wise in that they adopted continuing dates for the annual exhibit by setting the time for the Friday and Saturday nearest the anniversary of St. Patrick's birthday.

An annual engineers' dance, usually given at some time during the year, was also taken into the fold of the Open House com-

mittee's activities and established as part of the two-day program under the name of "St. Pat's Prom."

The present clearly designed and inclusive policy of the Open House committee is to present to the people of Kansas an instructive and entertaining exhibit to illustrate to the best advantage both the work of the division and the year's progress in the various commercial engineering fields. The students who direct the Open House from year to year are ever mindful, among other things, of the important gap that their exhibit fills for the high school students of the state who are about to embark upon a course of study in some college. A great deal of the shaping of the program is done with this fundamental idea in mind.

From the very outset, the unflagging interest displayed by the local Sigma Tau chapter and its members has served as an incentive to the remainder of the various committees' members, which now total over 100. Their untiring efforts to assist in the depiction of engineering progress and the interpretation of the work of the division is an indication of the indispensable function that the local chapter serves on the Kansas State College campus.

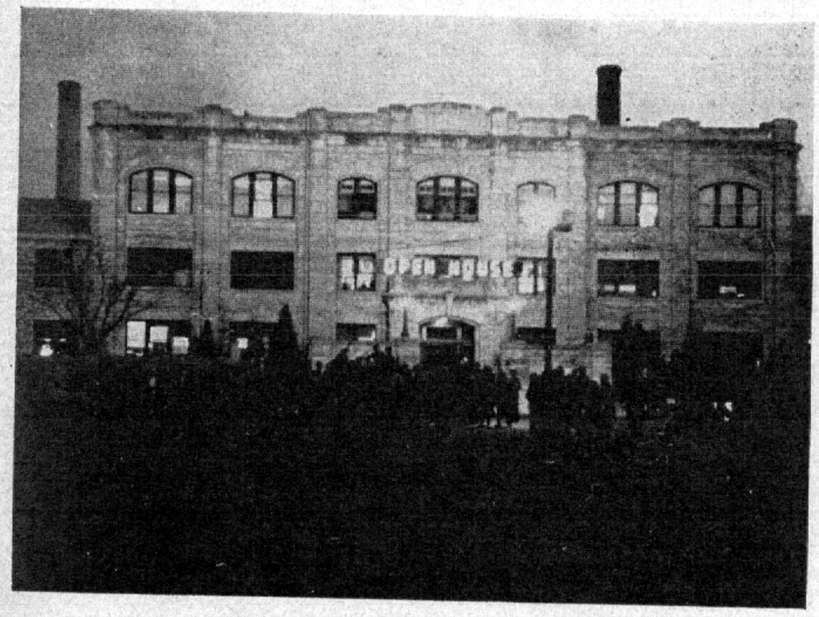
Many Interesting Exhibits

The outstanding exhibit in the 1939 show, according to judges, was the one presented by the architecture department. The adoption of a theme portraying the development of the student architect and his entrance into the professional field was decisively presented by the use of student and professional drawings and models. One of the most enjoyable features of the architecture display was that shown the spectators of students at work on drawings and paintings.

The television demonstration was probably one of the highlights of the year's displays, for the electrical department has completed installation of some of the most up-to-date equipment available, thus giving Kansas State College one of the very few completely modern television stations. Of further interest along the electrical line was the demonstration of a facsimile receiver, which, used in conjunction with a standard radio receiving set, prints a daily paper during the early hours of the morning when the radio would not otherwise be in use. The electrical department also presented a farm lighting display which was of interest to all visitors because of the question of rural electrification which now confronts many Kansans.

The applied mechanics department, in its displays, had the advantage of a great deal of fine laboratory equipment which otherwise is in regular every-day service by the students. The highway testing laboratory again came in for its share of the interest with various material-testing equipment which was kept in operation for the guests.

The administrative committee announced the inauguration this year of a new subcommittee on aeronautics to reflect the present trends along this line of industry. Plans of the aeronautics committee included the showing of light planes. In general, they were the two-seated, closed-cabin type with a top speed of 95 to 125 miles per hour, and a gasoline consumption rate of approximately four gallons per hour. In conjunction with this showing, there was displayed a transparent airplane instrument panel which enabled visitors to observe the functions of the various pieces of equipment used in flight. Unique displays of this committee also included a one-bladed propeller recently submitted to



CHEMICAL ENGINEERS' DISPLAY

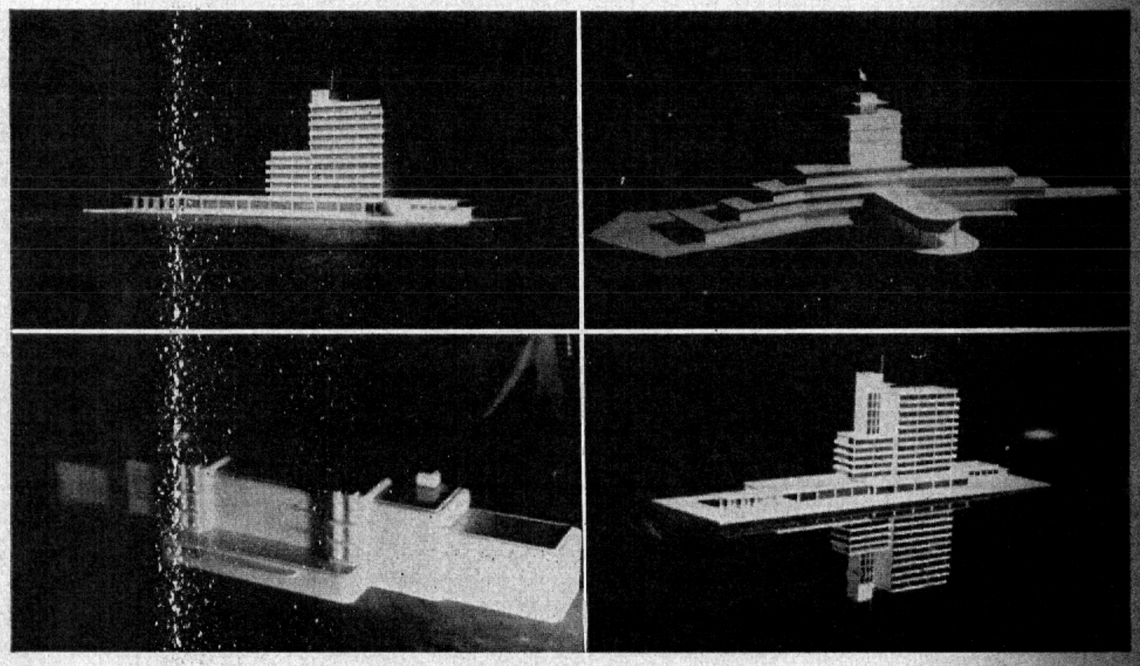
the air-minded public, which is said to be more efficient than the regular two- or three-bladed type.

The members of the chemical engineering department again showed their exhibits of flow sheets of various Kansas farm products showing the uses to which the chemist could put them.

This theme of how the chemical engineer can best help the farmer proved of especial interest at this time of year. The chemical engineers also displayed an exhibit contributed by an automobile manufacturer showing the uses to which soy beans are put in the manufacture of modern automobiles.

Petroleum engineering was very much in the picture since it is a relatively new type of exhibit. It was sponsored by both the mechanical engineering and chemical departments. It included a model oil refinery, which was shown at the International Petroleum Exposition in Tulsa, and an octane motor. Production exhibits featured several model oil well pumps and various pumps and drilling equipment.

The mechanical department offered its usually stiff competition for the prize winning exhibit. This year's committee stressed the display value of the equipment already in its possession by special schematic lighting to better emphasize the important parts of their exhibit. There were also cutaway models of Diesel engines, and a cutaway chassis of a modern automobile.



ARCHITECTURAL ENGINEERS' DISPLAY

The Department of Civil Engineering featured exhibits illustrating surveying, sewage disposal, foundations, bridge stresses, and the design and construction of steel structures.

A typical surveying camp was shown depicting the use of instruments and surveying methods under simulated actual conditions. The complete story of one or more methods of sewage disposal was graphically told by a model sewerage system. The foundations exhibit depicted the various kinds of modern foundations; featuring a working model pile driver, a working model pneumatic caisson, and the principle of the unique caisson employed in the West Bay crossing at San Francisco. Details of steel construction were shown in a scale model of a large copper ore refining plant.

Saturday afternoon saw the inauguration of a new feature set up by Duane Jehlik, general chairman, working with the publicity committee. It consisted of a man-on-the-street broadcast, at which time several important Kansas personalities were presented and interviewed. The program appeared as a 30-minute release over the college's own station, KSAC. At this time, as part of a special stunt staged by *The Kansas State Engineer,* 19 hydrogen-filled, government meteorological balloons were released carrying souvenir copies of the Open House number of *The Engineer.*

Gala Prom

Following the ancient Irish custom of celebrating St. Patrick's Day with a gala dance, the engineers closed their two days of entertainment and educational features with the well known "St. Pat's Prom." This dance was held in the college gymnasium, which, in the hands of a group of competent and enthusiastic architects and electrical engineers, was completely renovated to form a setting regally fitted to the theme of the occasion. The architects created the theme of St. Patrick being shown through Open House by caricatures of St. Patrick touring the various exhibits. This gave an unusual and distinctive take-off on the "big show" for the decorative scheme which was developed. These drawings took the form of a series of four-foot cartoons which extended completely around the balcony rail of the gymnasium to carry out this ambitious theme. Anson Weeks and his band provided the music for the enthusiastic dancers. With meticulous treatment of decorations and the success of the committee in procuring name bands, "St. Pat's Prom" is now regarded as the year's best school function of its type.

The feature of the evening's entertainment was the presentation to the engineers of Dick Wherry and Margaret Bunker as St. Pat and St. Patricia, respectively. The complete presentation cere-

mony, in all its traditional circumstances, was broadcast in a special program over KSAC on Saturday evening. At this time, the architecture department was awarded a cup for having had the best display of the year.

ENGINEERING EDUCATION—THE EUROPEAN WAY

STEFAN J. FRAENKEL, Alpha '40

Different countries have different ideas as to how to train their engineers—so manifold are the methods used in different parts of the world that it would seem that the products of those educational processes would have little in common. And yet, I am confident that a German engineer and an American engineer could "talk shop" in no time at all. It is the application of the theories in engineering that equalizes all the differences that might have existed in their different college educations. In this article, however, I would like to turn my attention to that phase of engineering that is much different from the American way—namely, the university training of the future engineer as it is practiced in European schools, German ones in particular.

I have been studying engineering for three years now, half of which time I spent in a German college of engineering, the "Technische Hochschule" at Hanover, and the other half in the University of Nebraska where I am now enrolled as a junior in the Department of Civil Engineering.

It did not take me long to find out how much different the study of engineering is in the United States, for on the very first day of my attendance of this university I found myself in the chemistry laboratory, virtually unable to handle a test tube and yet supposed to make an experiment on proton activity! The following day, a similar scene occurred in the physics laboratory. Needless to say, but all the theoretical knowledge, slowly accumulated throughout the years, did not do much towards enabling me to produce satisfactory results in my work. I had to step down from a region of lofty theories in which I had lived till then to experiments and laboratory work. And—it did not work. At least for quite a while it did not. These sobering experiences of mine indicate well that one does not have to look far for radical differences in the method of training between Germany and America.

German engineering schools are all maintained by the government. There are eleven of them in the country with an average enrollment of 1200 students. They are purely engineering and science schools and are in no way connected with a university. In that respect they resemble closely schools like the Massachusetts Institute of Technology. The severance from the universities with which they were originally affiliated occurred in the '70's, at which time the engineering sciences were believed to have reached such an advanced stage of development as to warrant the formation of universities of their own. Since then German engineering schools have led a separate existence. This state of affairs makes the German school appear quite different from the engineering college in one of the American state universities where the engineers are in constant contact with the other colleges and branches of higher learning. Necessarily, the German schools adopt a strictly professional aspect on account of this, and they are much more of a self-contained unit than the American college of engineering.

But not only the school as such, the students also are different. It is true that human nature is pretty much alike all over the world, and this, of course, holds true also in this instance. It would be hard to deny that German students like to have fun as much as any American student—and yet things are not quite the same on the other side of the big pond. The very age of the students plays an important part. The average age of the freshman class in a German engineering school is 20 to 21 years, and, of necessity, most of them are more mature than their American fellow student-engineers. They know that they go to school for the very definite purpose of learning a profession with which they will later have to make a living. I realize very well that by far the majority of the American students in the upper classes of engineering schools have much the same outlook, and it is rather in such colleges as the Arts and Science college that students are found who do represent an amazing contrast to the average student in an engineering school. Students in German engineering schools know that their studies are a good bit harder than those of other college students, and only those enter who are sure that they can live up to the expectations. Consequently, the number of students who "flunk" out is surprisingly small and a vast percentage of every class finally graduates after the completion of the four-year course. The students are occupied throughout their four-year course with strictly technical subjects only,

and no courses are offered to provide what may be called "distraction" for the mind. There is only a ridiculously small number of courses offered that do not pertain directly to engineering. The apparent danger of making the engineers too narrow-minded is eliminated by the fact that graduation from high school—where all subjects are compulsory—does not occur till about the age of 19. By that time, it is assumed, a student has absorbed enough general knowledge to allow him to concentrate from there on on one particular field. Therefore, German engineering schools confine themselves to strictly engineering subjects.

Another angle of the relationship student-alma mater may be worth while looking into. No better can this point be brought out than by comparing the cheering during an American football game with the anemic clapping during a college sports event in Germany. True, the German student does have feelings for his alma mater, but it is well-nigh unimaginable that he could ever be whipped into such a frenzy of enthusiasm as the American college student. On the whole, the sentimental bond between the student and his college is much cooler and "rational", I am tempted to say. The German student looks upon his college as an institution maintained by the government for his instruction with a staff of professors who, at certain semesters, teach certain courses and who, once or twice a year, give examinations to those who feel prepared enough to take them. On the other hand, the college in Germany considers the student as an adult person in every sense of the word and does not exercise any supervision over him at all. He is at liberty to attend classes whenever he wishes, he can live wherever he wishes, he can choose his courses in any way he desires, he can transfer from one engineering school to the other without tedious red tape to go through, and he can put off examinations for as long as he wishes if he does not feel prepared. Nothing matters to the school except that he passes the examinations which are required for a degree.

There are only two of those examinations during the entire four years—one after the first two years, the final one after the first two. They are largely oral and cover periods from two to three weeks each.

The difference in the method of instruction deserves mentioning. The outstanding point is that by far the greatest emphasis is thrown upon the theory in engineering. This was borne out

(*Continued on page 19*)

JOHN B. TEPE TO RECEIVE SIGMA TAU FELLOWSHIP

The Sigma Tau Fellowship Committee awarded the 1939-40 Graduate Fellowship to John B. Tepe, a member of Omicron Chapter at the University of Louisville. Brother Tepe has been a student in the Chemical Engineering Department since entering the university in 1935, and will be graduated at the close of the present semester. He plans to continue his present work at the University of Louisville, with a Master's degree his objective in 1940 and a Ph.D. degree from the University of Minnesota at a later date.

JOHN B. TEPE

His high school training was received from the Louisville Male High School, where he was a member of the R.O.T.C. Band and Rifle team. He stood fifth in a class of 220, his average being approximately 95 per cent.

He entered the University of Louisville with a working scholarship which continued during his four years of college work. He has been a member of the Louisville Civic Symphony Orchestra and played in the school band and orchestra. Serving as circulation manager of the school newspaper and magazine during his sophomore year, he was later elected to serve on the Board of Student Publication, Chairman of Engineers Day and president of the local chapter of A. I. Ch. E.

He was elected to membership in Sigma Tau and Kappa Alpha, a social fraternity, during his junior year, and later became President of Omicron Chapter. He represented his chapter at the recent Sigma Tau Conclave and has furnished splendid leadership not only for the local chapter, but the engineering student body as well. He has maintained a splendid scholastic record during the past four years and has been a self-supporting student.

EPSILON CHAPTER ISSUE

This, the Epsilon Chapter issue of THE PYRAMID, has been prepared in accordance with our usual custom of having a single chapter prepare one issue during the year. We are well pleased with the generous supply of material sent to us, and extend our thanks for the prompt response on the part of the several contributors.

Epsilon Chapter can well be proud of the splendid and wise leadership its members have given to the student body at Kansas State College, and it is to them that this issue of THE PYRAMID is dedicated.

DR. HAROLD E. EDGERTON'S PICTURES SELECTED FOR "ART IN OUR TIME"

"Art In Our Time", an exhibit with which the Museum of Modern Art will open its new building in New York City, will include a section of photography. In this display of work by post-war photographers will be six by Dr. Edgerton, Alpha '25. While on the teaching staff of the Massachusetts Institute of Technology, Dr. Edgerton developed ultra-high-speed photography as a scientific tool for the critical observation of rapidly moving machine parts. The following of his pictures were selected: Interior of a shot tower; a splash of a drop of milk; an ancient revolver in action; a pelt on water wheel; golfer and tennis player.

FRANK BANKS, GRAND COULEE ENGINEER, TO HEAD BONNEVILLE PROJECT

Secretary Ickes announced from Washington, D. C., on May 4th the appointment of Frank Banks (Eta Hon.), federal construction engineer at Grand Coulee Dam since 1933, as acting administrator of the Bonneville Power project in the Pacific Northwest.

Banks succeeds the late J. D. Ross as head of the government's big power project on the Columbia River.

ENGINEERING EDUCATION—THE EUROPEAN WAY

(*Continued from page 16*)

also by the remarks I made in the beginning of this article and it is probably the most far-reaching difference between the training of German and American engineers. At least 75% of all the hours spent at school are devoted to lectures covering the theoretical background of engineering with little time being devoted to the application of the theory and less time yet to work in laboratories or in the field. Just one example: the minimum time of field work in surveying required by this university for a degree in civil engineering is eight weeks out in the country—German engineering schools are satisfied with five days. On the other hand, I remember having been taught a great amount of theory, including the method of the least squares, for mathematically treating the distribution of errors in geodetic measurements while I was taking courses in surveying in Germany. (Maybe I should not admit it, but I remember next-to-nothing about those theories. I have kept my notes, however, to be on the safe side.) This shall serve as just an example of the difference in the lay-out of engineering study in this country and Germany. Engineering study in Germany will certainly appeal very much to the highly mathematically minded student. This theoretical aspect of the study of engineering makes the studies over there so hard because not a few good engineers are not theorists at all. From the conversations I had with German professors of engineering I have gathered the impression that the basic idea underlying such a theoretical system is the following: If our students are taught all the theory in school, then they will find it easy to pick up the practical side to engineering in actual life. If we should spend, however, part of our time on laboratory or field work—more than we do now—then we risk that the graduates find themselves deficient in some scientific aspect, and that is a much harder thing to acquire after you are out of school than a sense of practicality. Whether that point of view is right or not, I cannot judge.

If at the end of four years a degree is conferred upon a German engineering student, say in mechanical engineering, then he will not have studied for the last three semesters or so of his college days mechanical engineering but merely a part of it, such as turbine construction, combustion engines, etc. Not only does the student take his choice between civil, mechanical, electrical and other main branches of engineering, but within those fields

he has to specialize again. The process of specialization has celebrated great triumphs in German engineering schools. Consequently, there are separate chairs for such closely allied fields as building construction and timber construction, steel construction, concrete and masonry construction. In the school I attended there was a full professorial chair for each of the three above named subjects! Each one of the chairs had one or two graduate full-time assistants and a number of part-time undergraduate assistants. Naturally, with such large teaching staffs specialization is easily accomplished and is being carried out to an ever greater degree now. Whether this is a development to be welcomed is not for me to say; evidently it depends much upon the necessities of the moment, and Germany at the present time lacks college-trained specialists in technical lines. In a highly industrialized society a specialist has his place and justification. Under other circumstances the man who has been trained in the more general American fashion will be desirable and preferable.

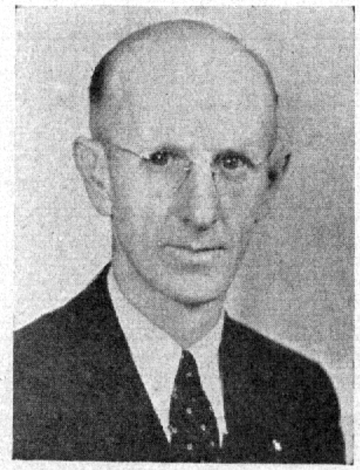
K.S.A.C. ENGINEERS AT WORK ON THE HILLSIDE LETTERS K. S.

The number of differences between German and American schools is legion. I have pointed out only a few of the outstanding ones in these lines: those which were so obvious to me that they have made me realize the differences between German and American schools from the very beginning.

INFLUENCES OF AN OUTSTANDING ORGANIZATION

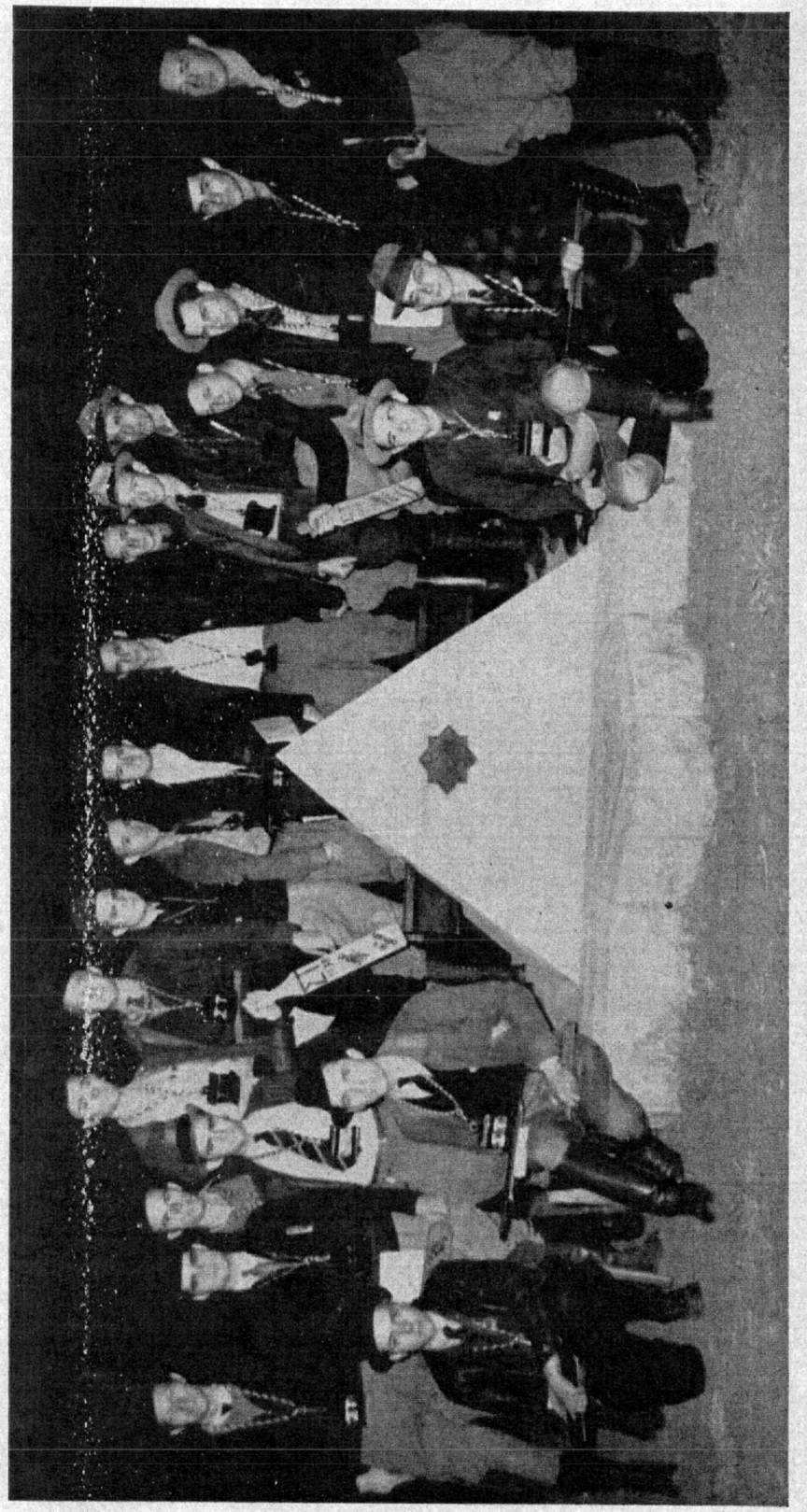
WALTER E. HANSON, C.E. '39, Secretary,
Epsilon Chapter of Sigma Tau

What makes membership in Epsilon Chapter of Sigma Tau the goal of all engineering students at Kansas State College? Why is it that underclassmen upon learning of Sigma Tau endeavor to adjust their standards of performance in an attempt to gain the recognition of membership in the society? These questions can be answered by pointing out that everywhere on the K. S. A. C. campus this organization has an enviable record of achievement and stands high among the students and other organizations because of its contribution to the well-being of the engineering college. The influence of Sigma Tau thus built up extends far beyond the engineering group. The organization is presented to the entire student body and faculty by its individual members who take an active part in the affairs of the entire institution. The three essential and necessary qualifications for election into Sigma Tau being scholarship, sociability and practicality, it follows that those possessing a well-rounded personality and ability are in the best possible position for leadership throughout the school. The general feeling exists that a college education is incomplete without some participation in extra-curricular activities.



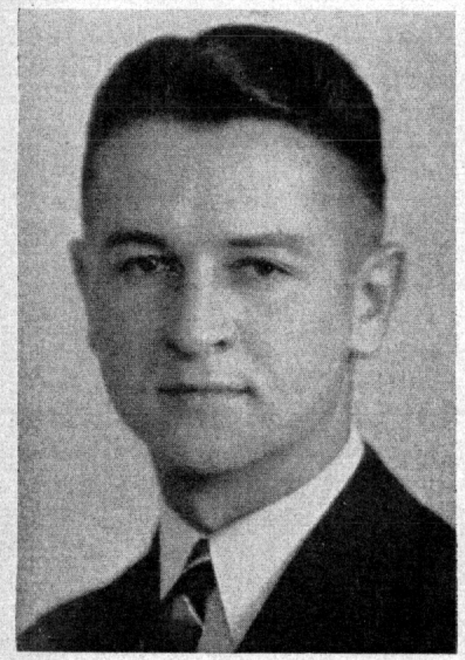
M. A. DURLAND
Asst. Dean of Engineering

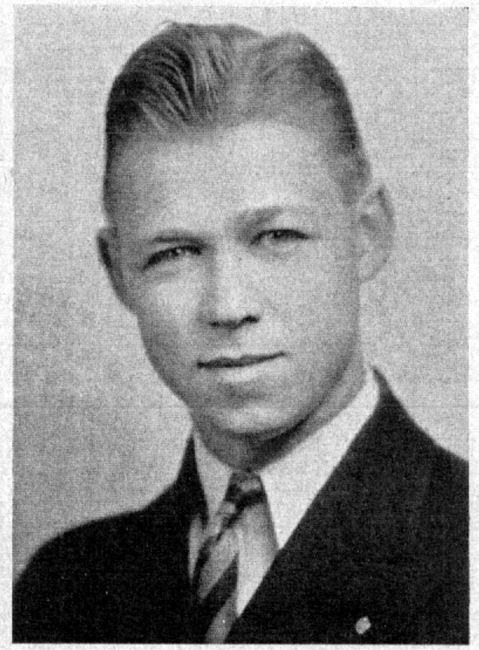
It would be impossible within a few pages to take each individual member of Epsilon Chapter and relate all his memberships and activities and enumerate his contributions to the various organizations of the college. The engineering division as a whole at Kansas State College consists of six departments; and it has always been quite evident that the members of Sigma Tau, which includes approximately an equal number from each department, are the outstanding men in their respective departments. It is therefore for the sake of brevity that only a few of the out-



EPSILON CHAPTER, KANSAS STATE COLLEGE, SELECTS FALL PLEDGES

STANDING, *left to right:* F. R. Hunter, J. J. Stout, R. C. Evenson, Ed F. Sefcik, C. F. Beyer, G. W. Vaught, Arthur H. Thompson, M. S. Dendurent, W. T. Keogh, John H. Eppard, Garrett Gardner, J. A. Nixon, E. A. Ripperger, J. J. Redmond, R. G. Lake, Frederick Gardiner, George O. Young.
KNEELING, *left to right:* R. E. Samuelson, J. T. McKenna, C. W. Blackburn, J. E. Wolfe, Bob Pyle not shown.





EPSILON CHAPTER PRESIDENTS

DUANE JEHLIK
1938-39

JOSEPH REDMOND
1939-40

standing officers of different societies and leaders in various activities will be mentioned.

In many of the colleges and universities throughout the country, there are chapters of Phi Kappa Phi, a national honorary society. As anyone familiar with the organization knows, only seniors whose scholastic standing places them in the upper 5 per cent of their class are elected during the fall semester. Then the remaining 5 per cent of the total upper 10 per cent are elected in the spring of that same year. It has always been evident at Kansas State College that Sigma Tau members constitute a larger percentage of the men elected than members of any other organization. The members of Sigma Tau who ranked in the upper 5 per cent of the senior class last fall are LeRoy Culbertson, Paul Hefty, Wendell Pfeffer, W. B. Sigley, H. R. Stover, W. L. Park, E. P. Smith, E. A. Ripperger, and J. E. Wolfe, and an equal or larger number will receive the honor this spring.

During the past two years, Epsilon Chapter has taken great pride in the prominent leaders who have been elected as the Sphinx of the organization. During the year 1937-38, Lawrence

Haller held the position and also was active in general school activities as vice-president of the Student Council, vice-president of the Blue Key, and held the rank of Cadet Captain in the local R. O. T. C. This year we are extremely fortunate in having a leader engaged in perhaps even more outside activities. Our present Sphinx, Duane Jehlik, is also vice-president of the Student Council, Cadet Captain in the R.O.T.C., manager of the 1939 Engineers' Open House, and member of Steel Ring and Blue Key. J. W. McKinley, vice-president of Epsilon Chapter, is a member of the Student Council, captain of the local chapter of Mortar and Ball, Cadet Major in the R.O.T.C., and a member of many other college organizations.

William McKinley

The societies within the various individual engineering departments constitute a very intricate and important relationship to the engineering division as a whole. The presiding officers of these organizations include such names as John Sutherland, Wendell Pfeffer, Edward Hayes, John Pennington, Richard Christy, Arthur Thompson, and Harold Brown, all members of Epsilon Chapter. On the staff of *The Kansas State Engineer* appear such Sigma Tau names as Leslie Doane, James Stout, Dick Wherry, Robert Lake, Joe Redmond, Wilson Blackburn, Robert Sieg, and Richard Christy. In connection with Big Six basketball, football, and swimming are the names of Homer Wesche, Glenn Boes, Edward Hayes, and Harold Brown. It is interesting to note that all the officers of Steel Ring, another honorary engineering fraternity, are Walter Hanson, Leland Moss, W. L. Park, and Arthur Thompson, whose names appear on the Epsilon Chapter's roll book. The same is true of Mortar and Ball, national honorary military fraternity, with Leslie Doane as the National Colonel, J. W. McKinley, W. B. Sigley, J. L. Mitcha, and Garrett Gardner.

William Keogh has been active in intracollegiate debating and is a member of Pi Kappa Delta, national honorary forensic fraternity. Along with the great number which could be listed as prominent officers in the local R. O. T. C., there should be included first of all Woodrow Sigley, as Cadet Lieutenant Colonel, and W. L. Park and J. W. McKinley as Cadet Majors. Dick Wherry, managing editor of this issue of The Pyramid, is the efficient president of the Student Governing Association, and has appeared in some of the Manhattan Theatre productions.

Open House, the annual exposition of Kansas State's engineering activity, is the climax of the winter's work of each student. The purpose of this exposition is to publicize and advertise the Division of Engineering and Architecture. The leaders in making the displays of the various departments a success are chiefly Sigma Tau members. The St. Pat's Prom, which always concludes the annual exhibition, is managed and rests under the sole supervision of Sigma Tau. It is not only an engineers' affair, but rather an all-school dance, and considered the largest and most elaborate ball of the year.

The various projects undertaken by Sigma Tau not only benefit the organization alone, but work toward progress and the betterment of the entire school of engineering and the college as a whole. This year, the project which has been selected is the repair of the two large concrete letters, K. S., that are 60 by 80 feet in dimension. The letters stand out rather vividly from the side of a hill, when entering Manhattan, Kansas, from the west, and produce a favorable advertisement of the college to tourists and persons not familiar with Kansas. We feel that in these projects constructive influences are exercised by our chapter, a great service is rendered our school, and we sincerely attempt to advance the interests of Sigma Tau as an outstanding organization.

NON-DESTRUCTIVE MATERIAL TESTING

EUGENE RIPPERGER, C.E. '39, Epsilon Chapter

Whenever a quarryman raps on a stone with a hammer and listens to the ring to estimate the density and soundness of the block, or when a farmer thumps on a watermelon to get an idea of its inner condition, or when an inspector taps a clay pipe to see if it is cracked, he probably does not know it but he is employing a principle which is now being utilized in the Kansas State College Department of Applied Mechanics for making soundness comparisons of concrete beams.

In the ordinary procedure now followed for measuring the effect of such deteriorating tests as freezing and thawing on the strength and quality of concrete, a number of specimens are made up from the same batch, several broken at 7 days and several more broken at 28 days. The conductor of the tests then hopes that the breaking strengths and other characteristics of the specimens put in to freeze and thaw are truly similar of the characteristics of the specimens broken. Then, in order to determine the effect of freezing and thawing after a given number of cycles, some more of the specimens must be broken and thus destroyed; and therein lies the greatest objection to this method of testing.

By means of a test method now being developed, the strength of a concrete specimen after any given number of cycles of freezing and thawing can be compared to the actual 28-day strength, or the strength at any other time of the specimen. This means that the specimen is not destroyed when its strength is measured. However, it is not absolutely correct to say that the strength is measured; for the test as now conducted measures only the changes that have taken place in the elastic properties of the material.

The principles of the method as explained by R. R. Sollenberger, Epsilon, Dr. Pickett, and Dr. Thomson of the applied mechanics department, may be briefly given as follows: If we have the concrete to be tested made into a number of small beams, each will have its own natural frequency of vibration which can be calculated approximately by the following simple equation:

$$f = \frac{(4.73)^2 K}{2 \pi L^2} \sqrt{\frac{g E}{e}}$$

In which f is the frequency, L is the length of the beam, K is the radius of gyration, g is the acceleration due to gravity, E

is the modulus of elasticity, and e is the density of the material. $\sqrt{\frac{g E}{e}}$ is the equation for the velocity of sound. The quantities measured in the test are f and the beam dimensions, leaving E as the only unknown to be calculated. The exact equation for the frequency must take into consideration both the rotary inertia and the lateral movement or Poisson's ratio of the beam. The effect of neglecting these two quantities is not known exactly as yet; but even if the exact equation were used, the calculated value of E cannot be considered as absolutely accurate because the theory from which the equation is derived assumes a perfectly homogeneous material which concrete is not, and the accuracy of the measurement for the beam dimensions is limited. However, the results obtained by this method are as accurate and perhaps more so than those obtained by other methods now in use for small beams.

For measuring the frequency, Sollenberger has employed an electrical tone beat oscillator which transmits vibrations to the beam through the diaphragm of a small earphone which is merely laid on one end of the beam. This part of the apparatus is referred to as the "driver." With his ear near the beam, the operator varies the frequency of the oscillator until the beam gives off its most distinctive note, which is the natural frequency of the beam. In order to avoid confusing one of the harmonics of the beam with its fundamental, Sollenberger first assumes an approximate value of E and calculates f. The fundamental frequency of the beam is then somewhere near this calculated value.

Earlier investigators of this problem used the sonometer for determining the fundamental frequency of the beam; but this method, while giving commendable accuracy when practiced by an experienced investigator, is much more difficult and involves more work than the electrical oscillator method.

As a means of comparing physical properties of a specimen at various stages in a series of tests, this frequency method is much more accurate and valuable than when used to measure directly the elastic constants.

This comparative method is based on the increase of the damping factor as the material undergoes decomposition. The increase of the damping factor causes the resonance curve of the displacement to be broader. This characteristic can best be illustrated by the accompanying curves. The flatness of the curves near the peak indicates the comparative range over which the

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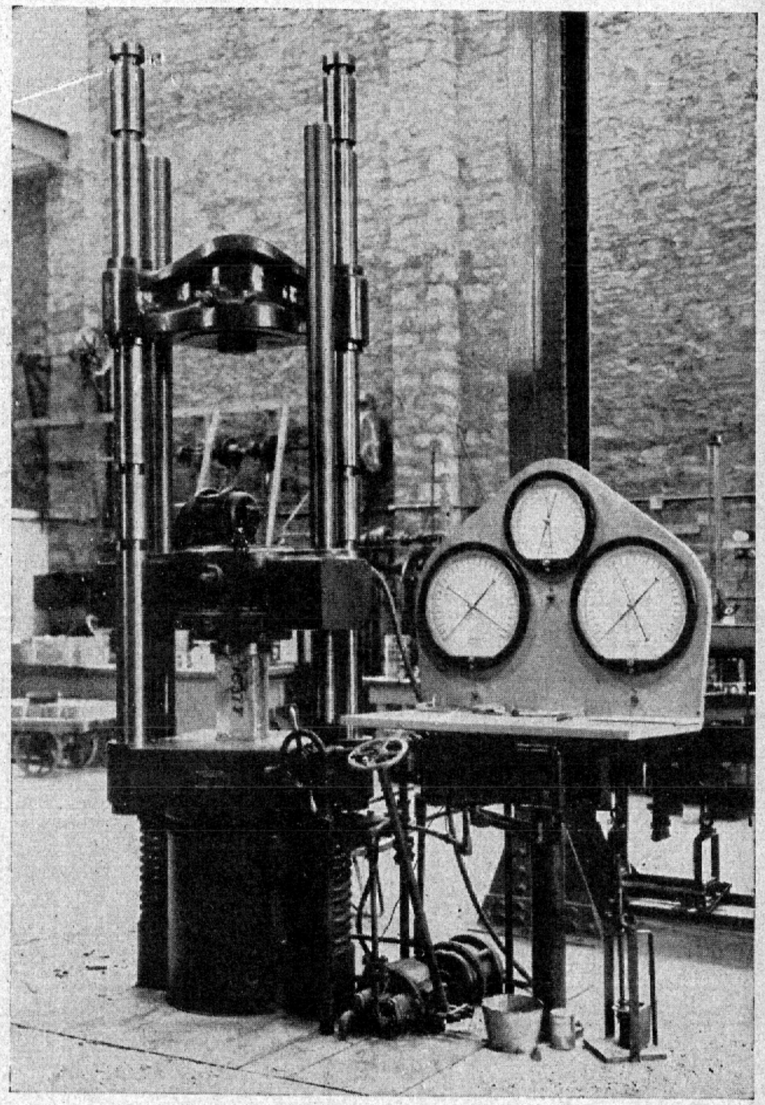
fundamental will seem to be audible with respect to the frequency of the vibrator.

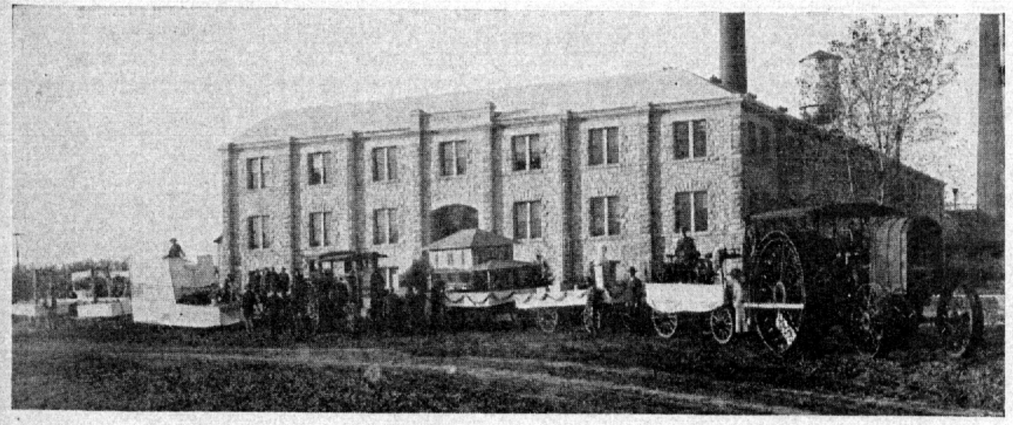
This method is also being developed for use in comparing the compositional characteristics of materials other than concrete,



SOUTHWARK EMERY 300,000 POUND HYDRAULIC COMPRESSION TESTING MACHINE

notably steel. Recently a paper by Dr. F. Forster and Prof. W. Koster dealing with the modulus of elasticity and damping in relation to the state of the material was presented before a symposium on non-destructive material testing held in London, England. In this paper it was stated that faults of any kind in a material combine to raise the damping so that cavities, cracks, pipes, pores, and other faults are easily discovered. An example was cited of ingots for forging, weighing some 100 kilograms, in which damping increased over 500 per cent when cracks were present. This method also seemed to be ideal for studying intercrystalline corrosion. For example, it was known that a certain steel known as V2A, when quenched from 1,050° C. and subsequently tempered at 600° C., was liable to intercrystalline corrosion by an acid solution of copper sulphate. After attack for 30 minutes, damping increased by over 100 per cent, and tensile strength decreased 9 per cent; but the same steel when not tempered after quenching, continued to show constant damping after several hundred hours of attack by the copper sulphate.

This method of testing material is in the early stages of development, but it appears to be capable of yielding quantitative results in appropriate cases. For the time being, however, it seems to be a laboratory method applicable only to prepared specimens. But to quote from the March issue of *Mechanical Engineering*, "with further development it ought to become available for testing full-scale jobs under field conditions."



A PARADE DURING ENGINEER FIELD DAY PRECEDING OPEN HOUSE

A remarkable thing about this test is the fine example it provides of the integration of work done and information gathered in the fields of physics, mathematics, and electricity by the research engineers in applied mechanics into a thing of practical value—a step in the direction of better engineering.

TELEVISION AT KANSAS STATE

ED HAYES, E.E. '30, and EDMOND WOLFE, E.E. '39,
Epsilon Chapter

For years we have been hearing that television is just around the corner. In recent months the officials of the New York World's Fair of 1939 have announced that the first public showing of regularly scheduled television broadcasts will be shown at their exposition. But television is six years old at Kansas State.

Since 1933, when W9XAK went on the air with television programs, experimenters in the Middle West have been familiar with the characteristic audio signal on 2050 kilocycles which told them that pictures were on the air.

The equipment used at W9XAK during these first years of pioneering was the original type, transmitting 20 frames a second with 60 lines per frame. It consisted of a three-foot scanning wheel driven by a synchronous motor, and transmitted the picture by throwing the light from a high intensity arc on the picture, in the now familiar "flying spot" system of scanning. The light reflected from the picture was converted into electrical impulses by the action of two banks of photo-electric cells.

This video signal, as it is termed to mark its difference from the sound, or audio signal, is amplified; and the signal is put on the air by a system very similar to that used in broadcasting.

While this system of transmission is outmoded by latest developments, it is still being used for broadcasting until the new equipment, which has been built within the last two years, is ready to go on the air on one of the television bands in the short wave region in the near future.

The man who is primarily responsible for developing the present equipment is Maurice W. Horrell (Epsilon '35). Mr. Horrell worked for the First National Television Institute in Kansas City for a year and a half after his graduation, but returned to Kansas State in 1936 to get his master's degree and to join the faculty as an instructor.

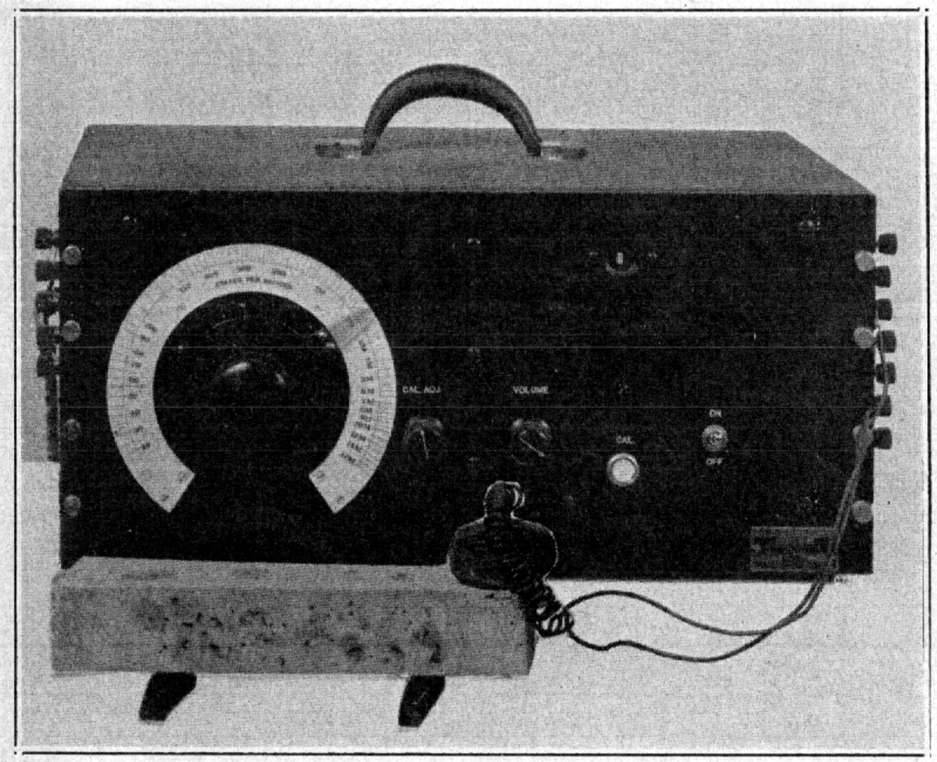
In this period he has directed the construction of the new equipment which will shortly be in use providing television programs for enthusiasts and experimenters in this vicinity.

The basic element of the new high fidelity television station is the Iconoscope or "Ike" as the tube is familiarly known to the research worker. The Iconoscope or "eye" of television is the invention of Dr. V. K. Zworykin and fills the same place in tele-

vision that the microphone does in ordinary broadcasting. "Mike" and "Ike" are the new reporters of the world as it is today.

The Iconoscope is perhaps the most highly ingenious tube ever developed, combining as it does thermionic emission, photo-sensitivity, and the formation of a cathode ray.

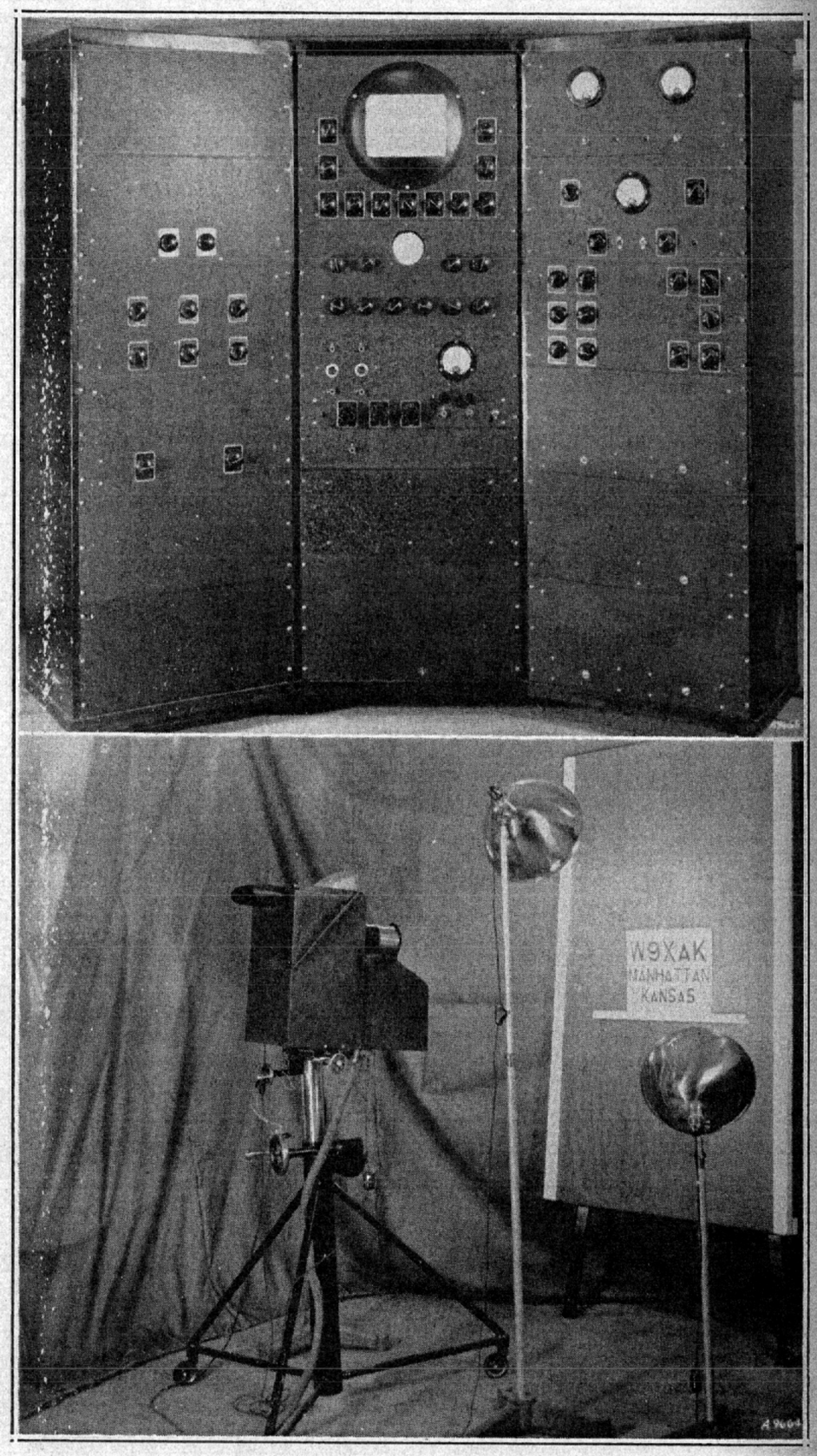
In operation, a lens of the ordinary optical variety focuses the scene upon a mica or mosaic plate inside the tube. Upon the front surface of this tube is a covering of millions of individual droplets of silver, each insulated from the other by the mica. To make the cell emit electrons when light falls upon the plate, a layer of caesium oxide is deposited on the silver droplets in much the same manner as is done in the familiar photo-electric cell. Each individual droplet therefore becomes a miniature photo-electric cell capable of emitting electrons when light falls



TONE BEAT OSCILLATOR

upon its surface. The number of electrons emitted is directly proportional to the strength of the light and to the time that the light falls upon the droplet.

On the reverse side of the mica plate is placed a thin film of



TOP—RECEIVING AND MONITORING EQUIPMENT
BOTTOM—ICONOSCOPE. K. S. A. C. TELEVISION

metal so that the droplets of silver and the metal make up a system of very small condensers, capable of storing a charge and developing a voltage proportional to the stored charge.

When the light from the scene is focused upon the plate, the miniature photo-electric cells emit electrons according to the strength of the light. This emission causes the millions of tiny condensers to develop a voltage between the droplets of silver and the metal plate, proportional to the lights and shadows of the televised scene.

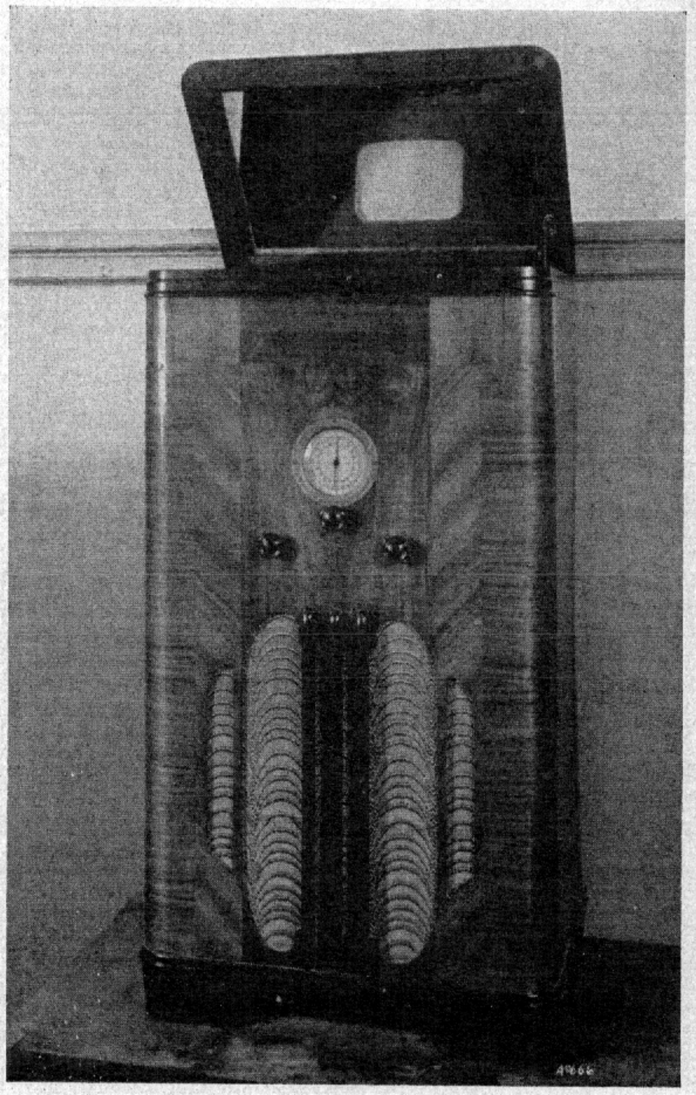
In Kansas State's new television camera, this storage process continues for about one-thirtieth of a second until the optical image on the plates of the millions of miniature condensers is converted into a sizable charge image. After about one-thirtieth of a second, the emitted electrons from the tiny photo-electric cells are replaced by the action of the cathode ray beam in an orderly sequence. The action of the cathode ray beam is controlled so that it moves horizontally across the plate from one side to the other, is extinguished while returning to the original side, moved down to the next row of droplets and repeats its scanning action in such a way that the entire plate, which is divided into 441 strips, is sent in one-thirtieth of a second. The tiny condensers consisting of the one droplet of caesium oxide-coated silver separated from the metal plate by the sheet of mica, have one-thirtieth of a second to accumulate a charge. However, the action of the charge replacing cathode beam is so rapid that this charge is replaced in a few millionths of a second. This rapid replacing of the charge causes a rapid change of voltage to appear on the metal coating, which can then be conducted to an external circuit. This voltage change in turn can be suitably amplified and used to cause a similar cathode ray beam in an ordinary cathode ray tube to vary its intensity in exactly the same way that the voltage varies between the droplets of silver and the metal plating in the Iconoscope.

By the use of suitable synchronizing circuits, the cathode ray beam in the receiver can be made to lock in step with the cathode ray beam in the Iconoscope. Under these conditions, the changing voltage causes the intensity of the receiving cathode ray tube to reproduce the televised scene upon the fluorescent screen of the receiving tube.

All of the equipment has been built in the electrical shops of the college upon designs by Mr. Horrell. The camera, containing the Iconoscope and its associated apparatus, is sufficiently

portable that it can be taken out-of-doors to televise events taking place outside the engineering building. The studio control equipment is a maze of wiring and tubes, having two separate cathode ray tubes. One is a nine-inch picture tube and the other is for signal and synchronization checks.

The studio control panel is five feet high and six feet wide. To control the intricate signals, 96 different controls have to be adjusted until the desired picture is obtained.



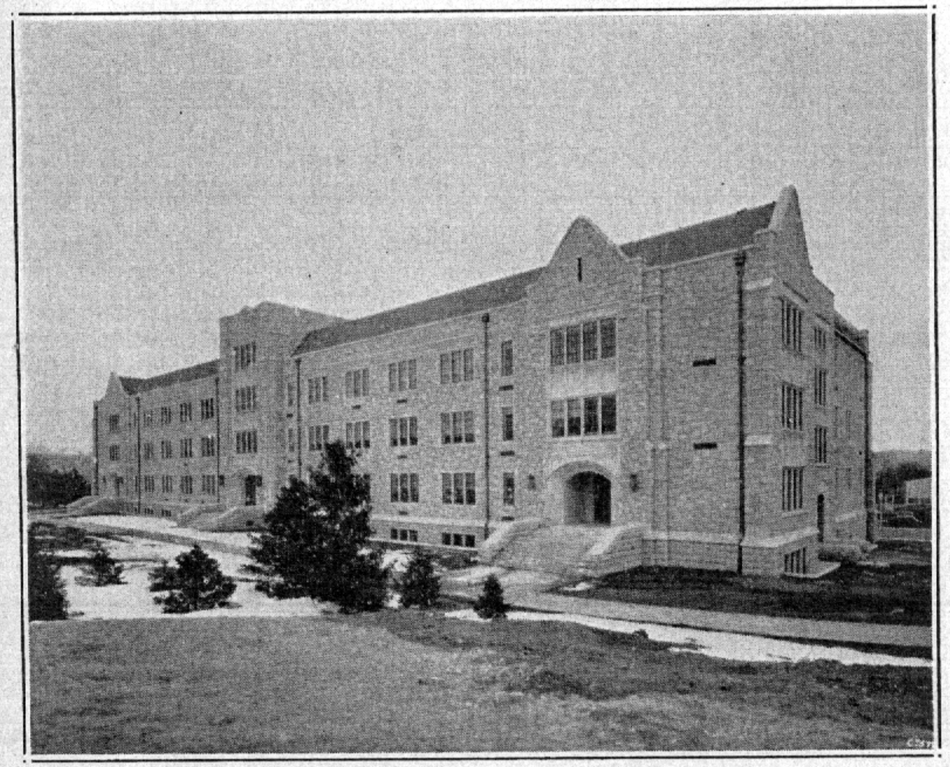
TELEVISION RECEIVER EMPLOYED AT W9XAK

For demonstration to the public of what may be expected from television, a second home receiver has been constructed using the same type of receiving cathode ray tube as the studio control unit. The receiver is housed in a beautiful cabinet about the

same size as a modern broadcast receiver. It has a mirror so that the image can be viewed from a comfortable sitting position. Since the control panel in the studio assumes the responsibility of getting the picture ready to put on the air, this home receiver is relatively simple. Operations may be carried on by the manipulation of only four knobs as compared to the 96 separate operations on the control panel.

The studios of W9XAK are located on the ground floor of the engineering building and consist of two rooms, one a studio for transmission and the other, separated from the first by a glass windowed wall, for reception. The scene in the television studio may be watched through the windows and also may be seen through the electric eye of the television camera.

On February 1st, the college authorities announced the resignation of M. W. Horrell, who has accepted a position with the



NEW PHYSICAL SCIENCE HALL, KANSAS STATE COLLEGE

Crosley Radio Corporation of Cincinnati. He will be in charge of building the studio control apparatus for the new television station to be erected by the same corporation that now operates WLW. His work here at Kansas State will be carried on by Dr. Harner Selvidge, and the final developments on the new high definition television station at Kansas State College will be com-

SOME K. S. A. C. ALUMNI

C. H. SCHOLER

EPSILON '14

WILFRED PARK, E.E. '39, Epsilon Chapter

C. H. Scholer is Professor and Head of the Department of Applied Mechanics of Kansas State College. In addition, part of his time is devoted to his duties as Engineer of Tests of the Road Materials Laboratory located at the college, which is operated for the joint benefit of the Kansas Highway Commis-

PROF. C. H. SCHOLER

sion and the school. His work in the various phases of testing materials, for mulation of standard specifications for the constituent materials of concrete and concrete itself has won recognition for him as an eminent authority in these fields.

Professor Scholer attended Kansas State College and was

graduated with a bachelor of science degree in civil engineering in 1914. Upon graduation, he was employed in Santa Fe, New Mexico, by the United States General Land Office as chairman of the general land office surveys and resurveys. From New Mexico, he came to Topeka, Kansas, where he was connected with the Atchison, Topeka & Santa Fe Railroad Company before coming back to Kansas State College as Assistant Extension Engineer. During his brief stay in Topeka, and later as Assistant Bridge Engineer for the Kansas Highway Commission, he gained a vast amount of practical experience which was later to prove invaluable to him in his chosen field. Before taking over his responsibilities as an instructor in the applied mechanics department of Kansas State College in 1919, he served in the Ordnance Department of the United States Army, as an engineer designer of artillery ammunition and its component parts. In his present position as Head of the Department of Applied Mechanics, he has carried on a vast amount of research work which has resulted in better concrete roads and more durable supplementary structures.

Recently Professor Scholer was granted a year's leave of absence from his departmental and teaching duties to head a research group under the sponsorship of the Portland Cement Association. In his new position, he will be known as the "Coordinator of Research," and will direct the efforts of 12 or 15 men who will assist in the work. The research will be carried on in New York, Pennsylvania, and adjoining states, and will require considerable time for completion. The group of engineers will visit the various projects of importance to observe methods of construction and to inspect materials. Samples of concrete will be obtained to be tested by the Chicago laboratory of the Portland Cement Association. When the research is completed and the data compiled and interpreted, the results will be published in the form of a code for future concrete work, making for better structures and road surfaces.

Professor Scholer also serves as consultant for the Tennessee Valley Authority, and as chairman of the committee on materials and construction for the Highway Research Board. In addition, he is a member of some eight or nine other committees of the American Society for Testing Materials.

HAROLD E. TREKELL

Epsilon '31

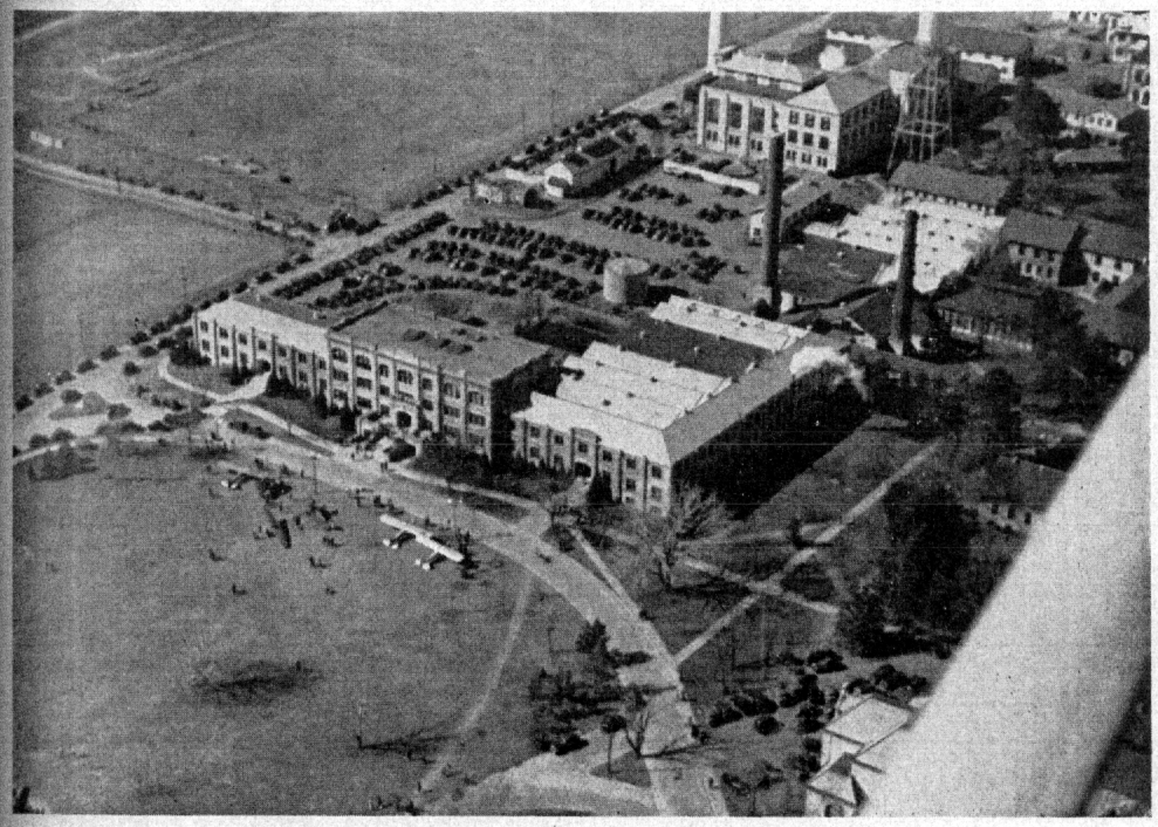
Harold E. Trekell is employed as a design engineer in the Meter Department of the West Lynn Works of the General Electric Company, West Lynn, Massachusetts. His skill in design has gained for him a place of prominence in the practice of engineering. In 1937, he was the recipient of a Coffin Award of Merit, presented by the Charles A. Coffin Foundation. The foundation was established in 1922, in memory of Mr. Coffin, former Lynn, Massachusetts, shoe manufacturer who became the first president of the General Electric Company. Every employee is a potential candidate for the honor, and the foundation seeks to provide annual recognition to those selected employees whose qualities and accomplishments best reflect the initiative, perseverance, courage and foresight of Mr. Coffin. The award to Mr. Trekell was in recognition of his diligent application and skill in designing a superior induction meter combining improved accuracy and an extraordinarily long range of performance. He was co-author of a paper on the fundamental analysis and design of this meter which was published in the January, 1937, issue of *Electrical Engineering*. In a similar capacity, he contributed to the design of the General Electric "V-2" two-element, single-disk meter which was placed on the market about three years ago.

H. E. Trekell

THE HILLSIDE LETTERS K. S. PRESENT A MAINTENANCE PROBLEM

Mr. Trekell attended Kansas State College and was graduated with a bachelor of science degree in electrical engineering in 1931. He was very popular among his fellow students while in college, and participated in a wide and varied number of activities. He was a member of Sigma Tau, Mortar and Ball, Hamilton Literary Society, and Dynamis. He ranked high in scholarship, which is evidenced by his election to Phi Kappa Phi, a national honorary scholarship society.

Upon graduation from college, he was employed by the General Electric Company, where he completed the customary Test Course. Following this, he enrolled in the three-year Advanced Course in Engineering given by the company, from which he was later graduated. His active interest in engineering as a profession is further manifested by his participation in the various activities of the local engineers' club and the American Institute of Electrical Engineers, both of which he is a member.



AIR VIEW OF ENGINEERING BUILDINGS TAKEN DURING OPEN HOUSE, 1938

H. K. HOWELL

Epsilon '38

H. K. Howell is a Lieutenant in the Corps of Engineers of the United States Army, stationed at Fort Logan, Colorado. At the present time, he is attached to the Headquarters and Service Company of the Second Regiment of Engineers. In addition to his regular army duties, he has supervision of W.P.A. construction and the planning of future projects in that vicinity.

Lieutenant Howell was graduated from Kansas State College with a bachelor of science degree in civil engineering in 1938. Throughout his college career, he was admired by his fellow students and instructors alike for his practicality and his thorough knowledge of problems most likely to be encountered in the field. His practical knowledge may be attributed in part to the fact that, previous to his enrollment in the school of engineering, he had spent several years in the employment of the Bureau of Reclamation in connection with the construction of Boulder Dam. The technical installation and reading of instruments placed in this seven million ton mass of concrete to record temperatures and stresses during its erection comprised his principal duties. His spare time in college was spent doing research work under Prof. C. H. Scholer in accord with the concrete research program being carried on by the applied mechanics department of Kansas State College. During the summers of the three years spent in obtaining his degree, Lieutenant Howell did individual research in reference to major concrete structures and their foundations on the following projects: Boulder Dam, the Grand Coulee Dam, the Arrowrock Dam, the Norris Dam, and the Chickamauga Dam.

Apart from his studies and research work, while in college Lieutenant Howell was very active in the various campus organizations, and was always eager and ready to take part in any student project undertaking. Motion picture photography was his chief hobby, which proved a constant source of pleasure to both him and his classmates. Films of the various dams upon which he had worked were shown in engineering seminars and smokers for their educational as well as entertainment value. He was an outstanding cadet officer in the Coast Artillery Corps of the Kansas State College R. O. T. C. unit, which, doubtless, was an important factor in his appointment as a Second Lieutenant in the Corps of Engineers of the United States Army in July, 1938.

EPSILON CHAPTER ALUMNI

Kenneth D. Grimes, Epsilon '31, is manager of the Public Affairs Division of the Peoria Association of Commerce, Peoria, Ill.

Martin O. Pattison, Epsilon '38, reports that he has secured employment with the Kansas Highway Commission.

Walter T. Rolfe, Epsilon '22, is head of the Department of Architecture, University of Texas, located at Austin, Tex.

Maurice W. Horrell, Epsilon '35, is in charge of building studio control apparatus for the new television station of the Crosley Radio Corporation, Cincinnati, Ohio. Mr. Horrell was formerly a member of the Department of Electrical Engineering faculty at Kansas State College, where he had charge of the television research work being carried on there.

Robert F. Adams, Epsilon '36, is employed in the testing department of the Lehigh Portland Cement Association, Allentown, Pa.

Charles H. Kent, Epsilon '38, reports that he is employed by the J. I. Case Company in Kansas City, Mo.

Charles F. Sardou, Epsilon '29, is employed by the Airplane Development Corporation, Grand Central Airport, Glendale, Calif. His work consists chiefly of shop work, laison, and drafting.

Marion H. Banks, Epsilon '22, is employed by the Socony-Vacuum Oil Company in Colombo, Ceylon.

C. M. Scott, Epsilon '12, is chief engineer of the Stanolind Pipe Lines Company. In this position he has charge of all pipe lines operated by the Standard Oil Company of Indiana. His home is in Tulsa, Okla.

Perry C. Arnold, Epsilon '38, is working for the Chicago Bridge and Iron Company at Toledo, Ohio.

Delber L. Blackwell, Epsilon '38, is located at Kansas City, Mo., where he is employed by Black & Veatch, Consulting Engineers.

Ralph D. Walker, Epsilon '27, may be addressed at Florida and Hockberry Road, Wilkinsburg, Pa. He is employed by the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and is in charge of orders for the navy, army, and special marine applications.

E. V. Farrar, Epsilon '26, is test engineer for the Wright Aeronautical Corporation, Paterson, N. J. He carries on the testing of aviation engines with special attention to supercharger design.

Vorras A. Elliott, Epsilon '34, is employed in connection with the research work on mercury turbines being carried on by the General Electric Company, Schenectady, N. Y. He works directly under Mr. Emmett, who is in charge of the promotion of this type of plant.

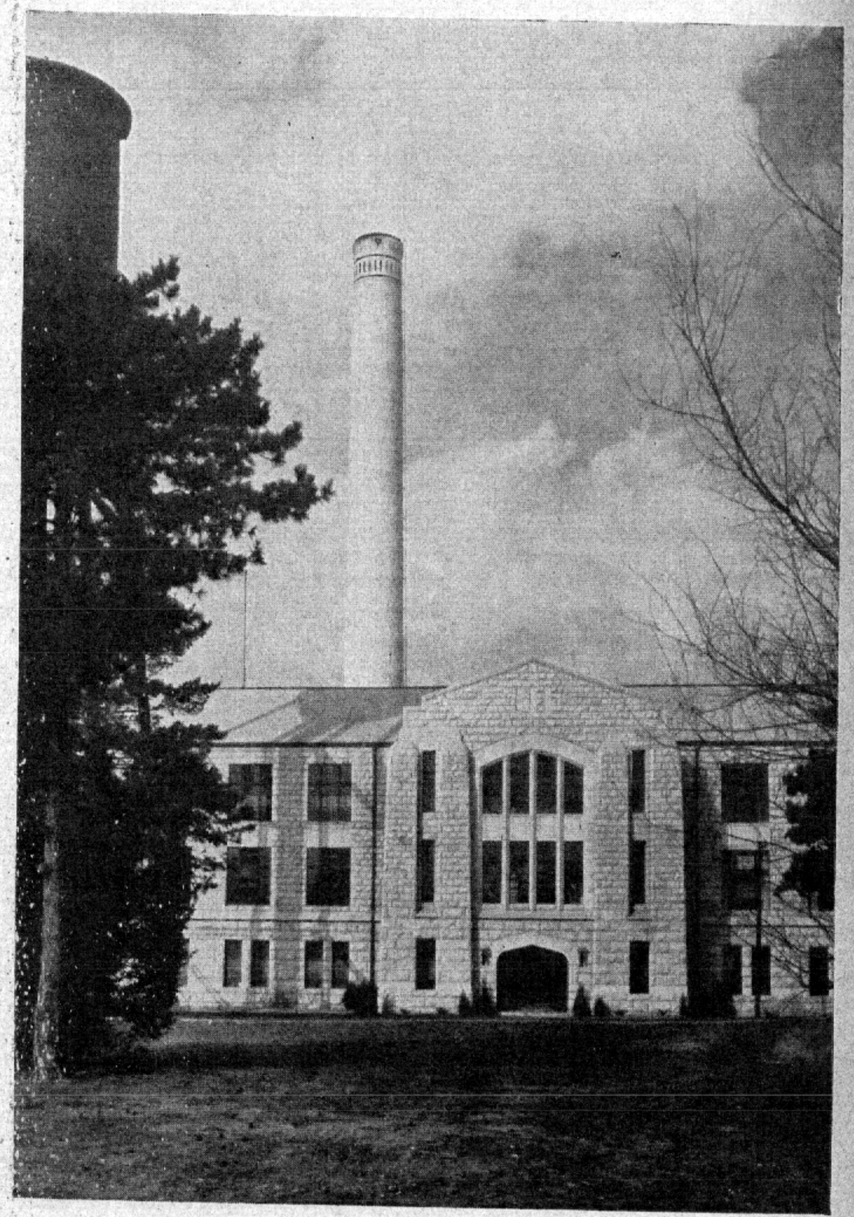
Norman J. Sollenberger, Epsilon '35, is an instructor in the Civil Engineering Department of Iowa State College, Ames, Iowa.

Louis C. Aicher, Epsilon '35, is employed by the Allis-Chalmers Manufacturing Co. as transformer design engineer, Milwaukee, Wis.

Lawrence I. Haller, Epsilon '38, formerly with the Kansas Power & Light Company, Manhattan, Kan., is now employed by the Westinghouse Electric & Manufacturing Company, Pittsburgh, Pa.

B. A. Rose, Epsilon '26, is connected with the Westinghouse Electric & Manufacturing Company, New York City, Sales Division. His work is in connection with transportation, marine, and central station engineering applications, and field trouble problems.

Fred J. Benson, Epsilon '35, is an instructor in civil engineering at Texas A. and M., College Station, Texas.



POWER PLANT—K. S. A. C.

WITH THE ALUMNI

Prof. C. F. Bowman, Alpha '23, who has been a member of the Montana State College faculty since 1929, has resigned to become Chief Engineer for the Montana Public Service Commission.

Dr. J. B. Davidson, Alpha '04, Founder and National President of Sigma Tau, 1924-28, received a scroll from the Structural Clay Tile Association in recognition of his work in developing a hollow clay block used in the construction of silos.

Maurice R. Garrison, Alpha '37, Production Engineer, Ross Heater & Mfg. Co., 45 West Mohawk, Buffalo, N. Y.

Willard Kuse, Alpha '35, with the Boeing Aircraft Co., Seattle, Wash.

D. F. McCauley, Alpha '22, formerly Branch Manager for W.P.A., Omaha, Neb., has been made Director of Operations, with headquarters at Lincoln. **E. T. Seeley,** Alpha '23, Field Engineer at Grand Island, has been transferred to the same office in Lincoln.

Franklin Meyer, Alpha '36, Representative in the field for Gate City Iron Works, fabricators of bridge and structural steel for buildings.

O. E. Van Berg, Alpha '10, Contractor, Mercedes, Texas, at present. Construction engineers, Willacy County Water Control and Improvement District, Raymondville, Texas. He writes: "We have two sons—L. L. Van Berg, who graduated from Texas University, 1936, with B.Sc., C.E., member of Tau Beta Pi and honorary C.E. fraternity; Charles F. Van Berg is a senior at the University of Texas in chemical engineering, and has been elected to honorary chemistry fraternity and Tau Beta Pi."

C. P. Hamlin, Epsilon '37.—2116 Quindaro Blvd., Kansas City Kan. He is in the Valuation Department, Electric Advisers, Inc., of New York.

Max McCord, Epsilon '36, Box 1121, Alice, Texas, is in the geophysical department of the Magnolia Petroleum Co. Observer with a torsion balance crew.

Elmer Munger, Epsilon '36.— 207 L. B. Harrison Club, 2368 Victory Parkway, Cincinnati, Ohio.

Harold A. Rothgeb, Epsilon '37.—120 So. Grant, Liberal, Kan.

Robert G. Scott, Epsilon '22, 1847 Conway Bldg., 111 West Washington, Chicago, Ill., is Vice-President and Consulting Engineer for the Clay Products Association.

Dean Shepard, Epsilon '38.—Assistant to Superintendent of Harvester Plant, Allis-Chalmers Mfg Co., 902 Harrison St., LaPorte, Ind.

Robert W. Beal, Zeta '35.—Teaching in the Department of Theoretical and Applied Mechanics, Iowa State College. 2304 Knapp St., Ames, Iowa.

Carroll F. Reeves, Zeta '21.—District Manager DeLaval Steam Turbine Co., 43 Rock Lane, Berkeley, Cal.

James W. Sloat, Zeta '35, obtained his M.S. degree in civil engineering, University of California, 1939. Now Second Lieutenant Engineering Corps, U. S. Army, Fort Belvoir, Va.

Fred H. Vosteen, Zeta '25.—Engineer, Design Division, Metropolitan Water District of Southern California. 4314 2nd Ave., Los Angeles, Cal. He reports that **Fred C. Ingram,** Zeta '25, is now Associate Engineer, U. S. Army Engineers, Norfolk, Va. Home address: 136 Dover Circle, Norfolk.

Burchard P. Shepherd, Zeta '36.—Engineer Dow Chemical Co., 1302 West Carpenter St., Midland, Mich.

Walter W. Hinz, Eta '38.—Junior Agricultural Engineer, Soil Conservation Service, Buckhorn, N. M. Address: S. C. S. 18, N. W.

Harold F. Horschel, Eta '29.—Engineer, U. S. Forest Service, Ogden, Utah.

Charles F. Monson, Eta '38, with the U. S. Bureau of Reclamation, Yakima, Wash.

W. F. Hahn, Eta '25—Manufacturing Representative, industrial equipment: American Monorail, American Pulley, Electric Products Co., Globe Hoist, Lansing Co., Lewis-Shepard, and Robins & Myers. 1424 16th St., Denver, Colo.

A. F. Barron, Theta '15.—Since 1923 Chicago Representative, Dayton-Dowd Co. of Quincy, Ill., centrifugal pumps; Simplex Valve & Meter Co., Philadelphia, Pa., Venturi meters and waterworks devices. 59 E. Van Buren St., Chicago. Home: 325 So. Luella Ave., Chicago.

Wilbur W. Betts, Theta '35.—250 School Road, Kenmore, N. Y.

Donald G. Evans, Theta '17, has been promoted to Vice-President of the Wisconsin Gas & Electric Co. with headquarters at Kenosha, Wis. In 1919 he was employed by this company as an engineer, and became general manager in 1937.

Geo. H. Simmons, Theta '20, is now a member of the law firm of Newby, Kimball, Cleary & Simmons, 208 So. LaSalle St., Chicago, Ill. He specializes in patent, trademark and copyright practice, and lives at 7117 Oleander Parkway, Chicago.

Russel G. Cone, Theta '22.—Engineer, Golden Gate Bridge, San Francisco. Cone was Resident Engineer of Construction under Joseph B. Strauss. Upon Strauss' retirement he was appointed to the former's position. At present in charge of maintenance and construction of various improvements to the property since the opening in 1937. Mail address is Box 99, Presidio Station, San Francisco.

John Shelford, Theta '34.—Through civil service examination was appointed Bridge Designing Engineer for Michigan State Highway Department. For mail: 506 West Iowa St., Urbana, Ill.

Edward J. Slygh, Theta '30.—31 Keystone Ave., River Forest, Ill.

Donald M. Nicholsen, Iota '36.—1522 Lafayette St., Denver, Colo. Service Engineer, G. E. X-ray Corp.

Eugene T. Spitler, Kappa '27.—Conclave Representative Kappa Chapter, 1926. Can be reached at 23 Atlantic Ave., Edwardsville, Pa.

Franklin F. Smith, Kappa '35.—P. O. Box 315, Pitman, N. J.

J. D. Cooner, Kappa '16, has had much experience in his chosen field of mining. He has recently prepared two interesting papers which were presented at national meetings. The first one, entitled "Safety Education in Anthracite Mines," was prepared for the 1936 Pittsburgh, Pa., meeting of the American Institute of Mining and Metallurgical Engineers, Coal Division. The second paper, "Specific Injuries and Hazards and Their Elimination in Anthracite Mining," was presented before a National Safety Congress meeting in Kansas City, Mo., October, 1937. In preparation for this work, Brother Cooner spent a great deal of time studying the methods of collecting and counting dust samples and their elimination in the metal mines of the Oliver Iron Mining Co., Ironwood, Mich.; the International Nickel Co. mines at Copper Cliff, Ontario, and the Hollinger Consolidated Mines, Terminus, Ontario. Previous to this time he carried on similar studies at the U. S. Bureau of Mines, Pittsburgh, Pa. At present he is with the Hudson Coal Co., Scranton, Pa. Home address: 1623 Sanderson Ave.

A. F. Ewert, Lambda '29, is located at Ottawa, Kan., where he is serving as Roadmaster for the A. T. & S. Fe Railway Co.

John B. Heffelfinger, Lambda '38, was reported by **H. L. Krauss,** Lambda '39, to be Graduate Assistant, E.E. department, Ohio State University, Columbus, Ohio.

Harold Feldstein, Mu '36.—Engineer, Federal Supply Co., 1015 East Park, Oklahoma City, Okla.

Woodrow Huddleston, Mu '39.—T. Carter Oil Co., Stonewall, Okla., R. R. 2.

Louis L. Ludlow, Xi '30, 4011 5th St., N., Arlington, Va. Associate Engineer, U. S. Navy Department, Bureau of Ordnance, Washington, D. C.

E. M. Tuttle, Xi '37.—285 Lynn Shore Drive, Apt. 7, Lynn, Mass. Engineering Department, G. E. Co., River Works.

Frank M. Filler, Omicron '37, Memorial Dormitory, University of Cincinnati. Assistant in chemical engineering and working for Ph.D. in field of air and vacuum drying.

Ralph Gustafson, Pi. '37.—Graduate Assistant in Applied Mechanics Department, Kansas State College. Research problem: Certain fatigue testing of welds. Home is 619 N. 11th St., Manhattan, Kan.

Adolph C. Thusing, Pi '30.—National Park Service, Belton, Mont. Stationed at Glacier National Park, and assistant to Mr. I. S. Stinson, Park Engineer.

Harold M. Bennett, Sigma '38.—Engineering sales, Box 717 Cedar Grove Station, Shreveport, La.

Herman Groseclose, Sigma '36, with Holway & Nueffer, Grand River Dam Engineers. Receives mail at Wanrika, Okla.

Wayne C. Edmister, Sigma '32.—Process Design Engineer, Standard Oil Co., Whiting, Ind. Member evening division faculty, Armour Institute, Chicago, teaching chemical engineering subjects.

Bob Griffin, Sigma '39.—G. E. Student Course, Schenectady, N. Y.

Ralph M. Shane, Tau '35.—Chief of Survey Party, U. S. Indian Service, Lakeport, Cal.

Albert E. O'Neall, Upsilon '35.—Junior Civil Engineer at Naval Air Station, Pensacola, Fla., working on expansion program. 2115 No. 12th Ave., Pensacola, Fla.

Paul M. Pore, Upsilon '36, Sanger Hotel Apartments, Dallas, Texas. Associated with his father in the oil business in Texas.

Rowland W. Fife, Chi '37.—Civil Engineering work, Cedar City, Utah.

Lincoln C. Koch, Chi '36.—Aviation Cadet, Cadet Barracks, U. S. Naval Air Station, Pensacola, Fla.

Robert M. Officers, Chi '31.—Located at 721 University Ave., Las Vegas, New Mexico.

Harry A. Begley, Psi '35.—Assistant Engineer, research work, on automotive fuels in laboratory and on the road for Gulf Research and Development Co., Harmonville, Pa. Home: 169 Pennwood Ave., Edgewood, Pittsburgh, Pa.

Walter H. Rupp, Psi '30.—Engaged in refinery design for the Standard Oil Development Co. Recently returned from three months' visit to Aruba, Netherlands, West Indies, following similar trip in 1937.

R. A. Evans, Omega '36.—Recently returned from a diplomatic cruise to Australia on the U. S. S. Louisville, as Second Lieutenant, U. S. Marine Corp stationed at Quantico, Va.

John M. Hill, Omega '33, 2442 10th Ave., No., Seattle, Wash., is connected with the Boeing Aircraft Co.

Harold B. Standly, Alpha Alpha '37, 55 Ardmore St., East Springfifield, Mass., is in the Fan Eng. laboratory of the Westinghouse Company's plant.

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(Continued from Inside Front Cover)

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